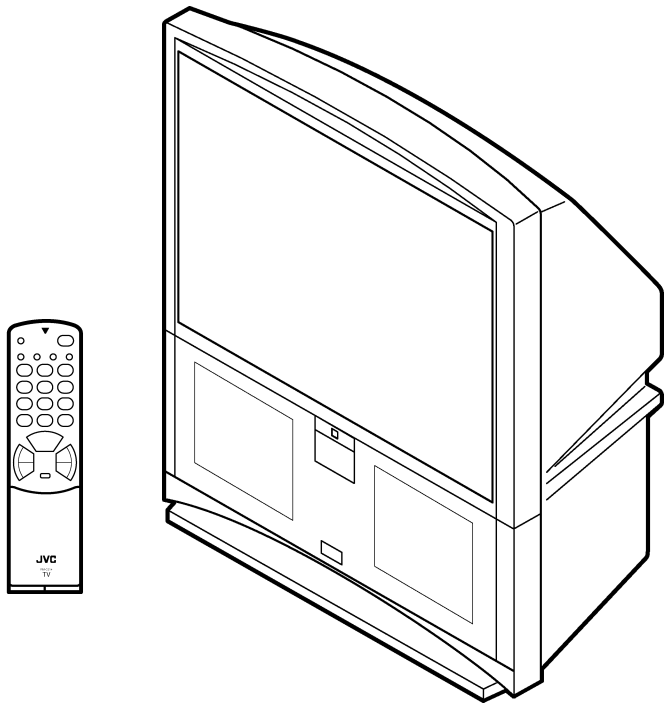
JVC

SERVICE MANUAL

REAR PROJECTION TELEVISION

HV-53PRO /K
HV-53PRO /AU

BASIC CHASSIS
MF



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SPECIFICATIONS

Item		Content
Dimensions (W × H × D)		120cm × 145.4cm × 61.9cm
Mass		85.0kg
TV RF System		B/G, I, D/K, K1, M
Colour System		PAL / SECAM / NTSC 3.58 / NTSC 4.43
Stereo System		A2 (B/G) / NICAM (B/G, I, D/K, K1)
Teletext System		Fastext (UK system) WST(world standard system)
Receiving Frequency	**V_L**	46.25MHz ～ 168.25MHz
	V_H	175.25MHz ～ 463.25MHz
	UHF	471.25MHz ～ 863.25MHz
	CATV	Mid (X～Z+2, S1～S10), Super (S11～S20) & Hyper (S21～S41)
Intermediate Frequency	**VIF**	38.0MHz
	SIF	32.5MHz(5.5MHz) / 32.0MHz(6.0MHz) / 31.5MHz(6.5MHz) / 33.5MHz (4.5MHz)
Colour Sub Carrier Frequency	**PAL**	4.43MHz
	SECAM	4.40625MHz / 4.25MHz
	NTSC	3.58MHz / 4.43MHz
Power Input		AC 110V～240V , 50/60Hz
Power Consumption		Max 287W / Avg. 208W
Aerial Input Terminal		75Ω unbalanced, Coaxial
Screen		Transparent screen (Unitized Fresnel lens / Double lenticular lens)
Screen size		53"(135cm) measured diagonally (W : 107.7 cm × H : 80.8 cm)
Projection tube		17 cm (6.7") tube × 3 (R / G / B)
High Voltage		31.0kV $^{+1.0kV}_{-1.5kV}$ (At zero beam current)
Audio Power Output		20W + 20W
Speaker		ϕ 16cm Round type × 2
Input Terminal	**Video**	1Vp-p 75Ω
	Audio(L/R)	500mVrms(-4dBs), High Impedance
	S – Video [VIDEO-1]	Y : 1V(p-p) Positive (Negative sync provided) 75Ω C : 0.286V(p-p) (burst signal), 75Ω Mini-DIN 4 pin connector × 1
	Component [VIDEO-2]	Y : 1V(p-p), 75Ω C_B : B-Y 0.7V(p-p), 75Ω / C_R : R-Y 0.7V(p-p), 75Ω
Output Terminal	**Video**	1V(p-p) 75Ω ,
	Audio(L/R)	500mVrms(-4dBs), Low Impedance2
AV Compulink		Mono mini jack (ϕ 3.5mm)
Headphone jack		Stereo mini jack (ϕ 3.5mm)
Remote Control Unit		RM-C214 (AA/R06 / UM-3 Dry cell battery × 2)

Design & specifications are subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏦) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

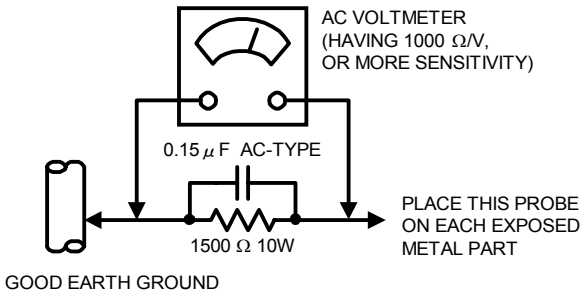
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. **Isolation Check**
   (Safety for Electrical Shock Hazard)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

● **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



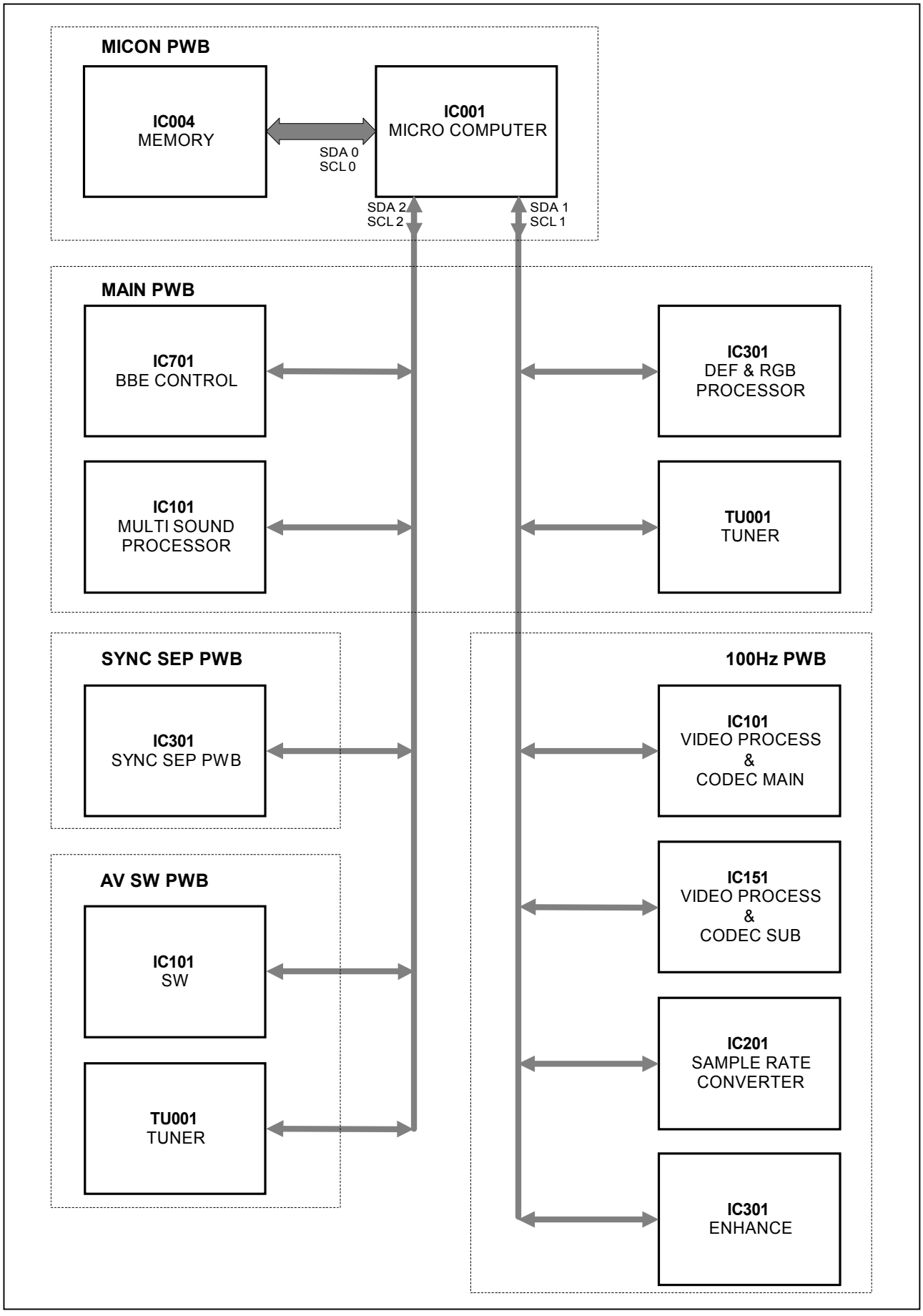
FEATURES

- New chassis design enable use of an interactive on screen control.
- The TELETEXT SYSTEM has a built-in FASTEXT (UK system), and WST (world standard system) system.
- Digi Pure pro : Auto digi pure with motion picture compensation.
- 2-3PULL DOWN : You can enjoy DVD movies at the highest picture quality.
- MOTION COMPENSATION : With this function, the seamless reproduction of dynamic motion on the screen has been realized.
- Because this TV unit corresponds to multiplex broadcast, users can enjoy music programs and sporting events with live realism. In addition, BILINGUAL programs can be heard in their original language.
- Built-in 100Hz (PAL / SECAM) scanning & progressive scan (NTSC) TV.

MAIN DIFFERENCE LIST

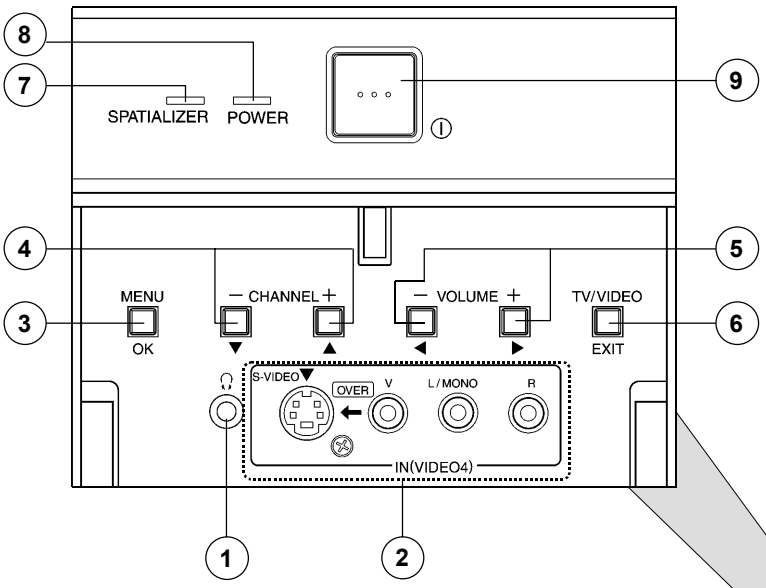
⚠	Model name / Part name	HV-53PRO/K	HV-53PRO/AU
⚠	**POWER CORD**	QMPR390-200-JC	QMP2980-185J5
⚠	**RATING LABEL**	LC21093-001A	LC20700-013A-0L
⚠	**INST BOOK**	LCT1165-001A	LCT1078-001A
⚠	**INST SHEET**	LCT1166-001A	LCT1159-001B
	ADAPTER PLUG	QAM0401-001	×
	WARRANTY CARD	BT-56010-1	BT-56001-2
	S CENTER LIST	×	BT-56002-2
	CARTON LABEL	LC41280-001A	×

SYSTEM BLOCK DIAGRAM



FUNCTIONS

■ FRONT TERMINAL & CONTROL



① Headphone jack

② Video-4 terminal (S-VIDEO / VIDEO / L/MONO / R)

③ MENU/OK Button

④ Channel -/+ (MENU UP/DOWN) Button

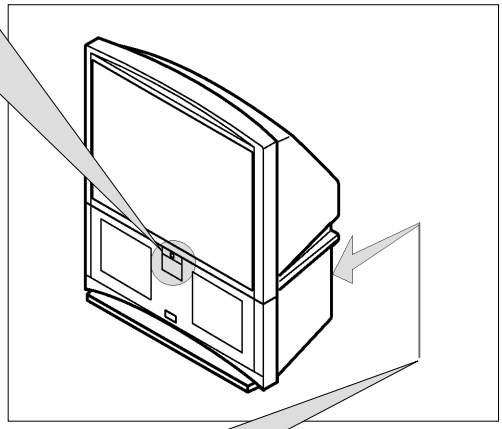
⑤ VOLUME -/+ (MENU LEFT/RIGHT) Button

⑥ TV/VIDEO / EXIT Button

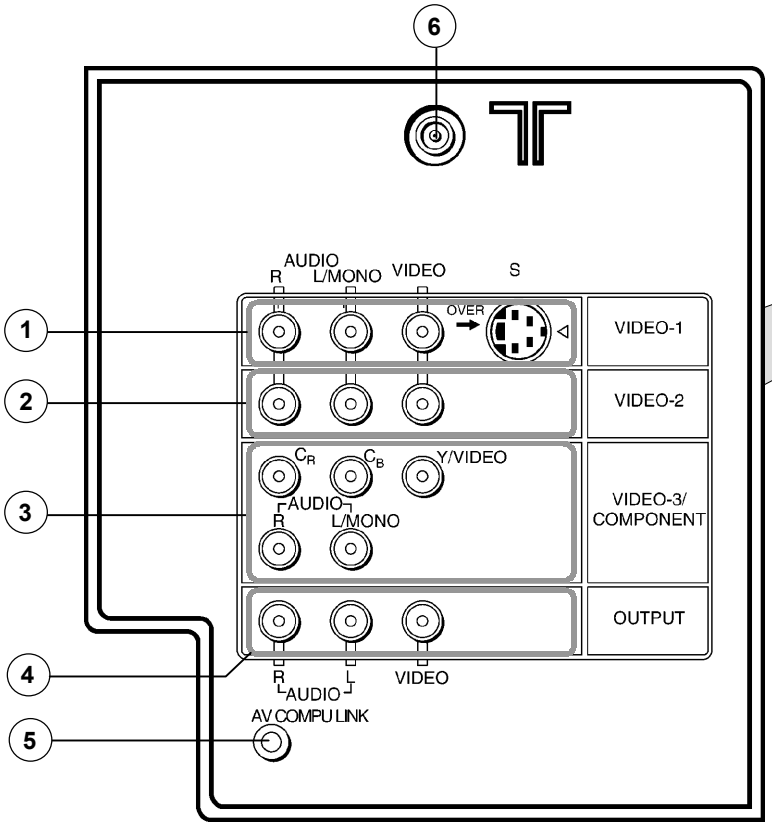
⑦ SPATIALIZER LAMP (Green)

⑧ POWER LAMP (Orange / Green)

⑨ MAIN POWER SW Button



■ REAR TERMINAL



① Video-1 (INPUT) terminal (S-VIDEO / VIDEO / L/MONO / R)

② Video-2 (INPUT) terminal (VIDEO / L/MONO / R)

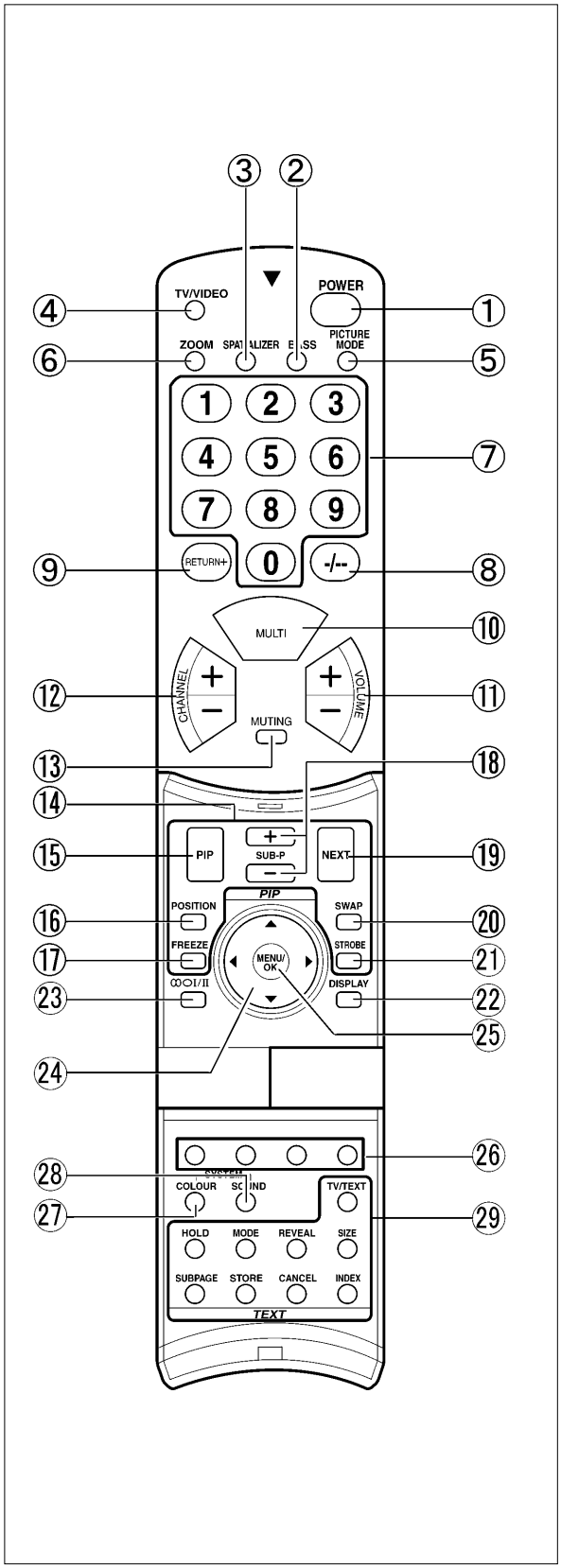
③ Video-3 /COMPONENT (INPUT) terminal (Y/VIDEO /C_B/C_R / L/ MONO / R)

④ Output (AUDIO/VIDEO) terminal (VIDEO / AUDIO L / R)

⑤ AV COMPULINK terminal

⑥ Aerial socket

■ REMOTE CONTROL UNIT [RM-C214]

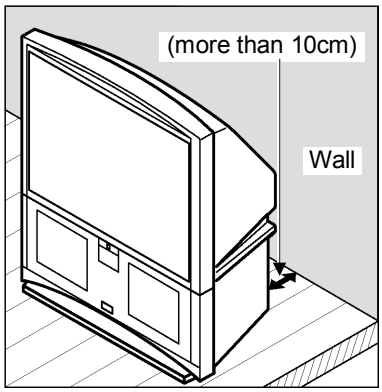


① POWER Key
② BASS Key
③ SPATIALIZER Key
④ TV/VIDEO Key
⑤ PICTURE MODE Key
⑥ ZOOM Key
⑦ CHANNEL Key
⑧ -/-- Key
⑨ RETURN + Key
⑩ MULTI Key
⑪ VOLUME +/- Key
⑫ CHANNEL +/- Key
⑬ MUTING Key
⑭ PIP MODE
⑮ PIP Key
⑯ POSITION Key
⑰ FREEZE Key
⑱ SUB P (PIP)+&- Key
⑲ NEXT Key
⑳ SWAP Key
㉑ STROBE Key
㉒ DISPLAY Key
㉓ STEREO ◯◯ Ⅰ / Ⅱ Key
(◯◯ : Stereo / ◯ : Mono
Ⅰ : Bilingual (sub Ⅰ)
Ⅱ : Bilingual (sub Ⅱ))
㉔ FUNCTION (▼/▲ & ◀/▶) Key
㉕ MENU/OK Key
㉖ COLOUR Key
㉗ COLOUR SYSTEM Key
㉘ SOUND SYSTEM Key
㉙ TELETEXT Keys

INSTALLATION

1. INSTALLATION SITE

1. The rear of this set is provided with ventilation openings. Install the set more than 10 cm from a wall and in a location with good ventilation.
2. Avoid the following types of locations.
   (1) Unstable locations (location must be able to withstand heavy weight).
   (2) Locations subjected to direct sunlight.
   (3) Near stoves or other heating devices.
   (4) Locations subjected to humidity or oily smoke.
   (5) Dusty locations.
   (6) Locations with strong vibration.



VENTILATION OPENING

2. INSTALLATION ADJUSTMENT

When installing, moving or changing the orientation of the set, perform static convergence adjustment according to the following procedure.

1. Press the MENU/OK key of the remote control unit.
2. Select the "DIGITAL CONVERGENCE" in the PICTURE FEATURES menu. Then press the MENU / OK key.
3. The convergence adjustment screen appears with crosses (+) displayed in 9 locations.
   Locations where the crosses appear in 3 colours:
   Convergence adjustment is required. Perform steps 4 to 5.
   Locations where the crosses are white:
   The convergence is adjusted correctly.
   ● If all the crosses are white, no convergence adjustment is needed.
4. The locations of the crosses correspond to the positions of the number keys on the remote control. A box appears around the selected cross.
5. Press the NEXT button to change the colour of the box to the colour of the cross you want to adjust (red or blue).
   ● You cannot adjust the green cross.
6. Use the (▲/▼) and (◀/▶) buttons to adjust the position of the cross.
7. Press the MENU/OK button to end the convergence adjustment procedure.
   ● If you do not use the TV controls for roughly one minute, the convergence adjustment screen automatically disappears.

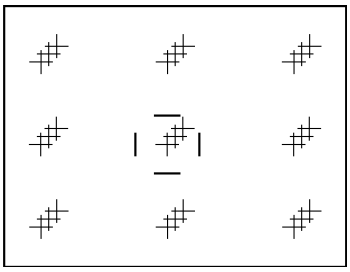


Fig:1

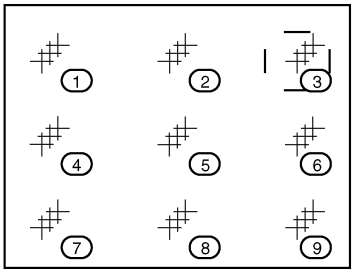


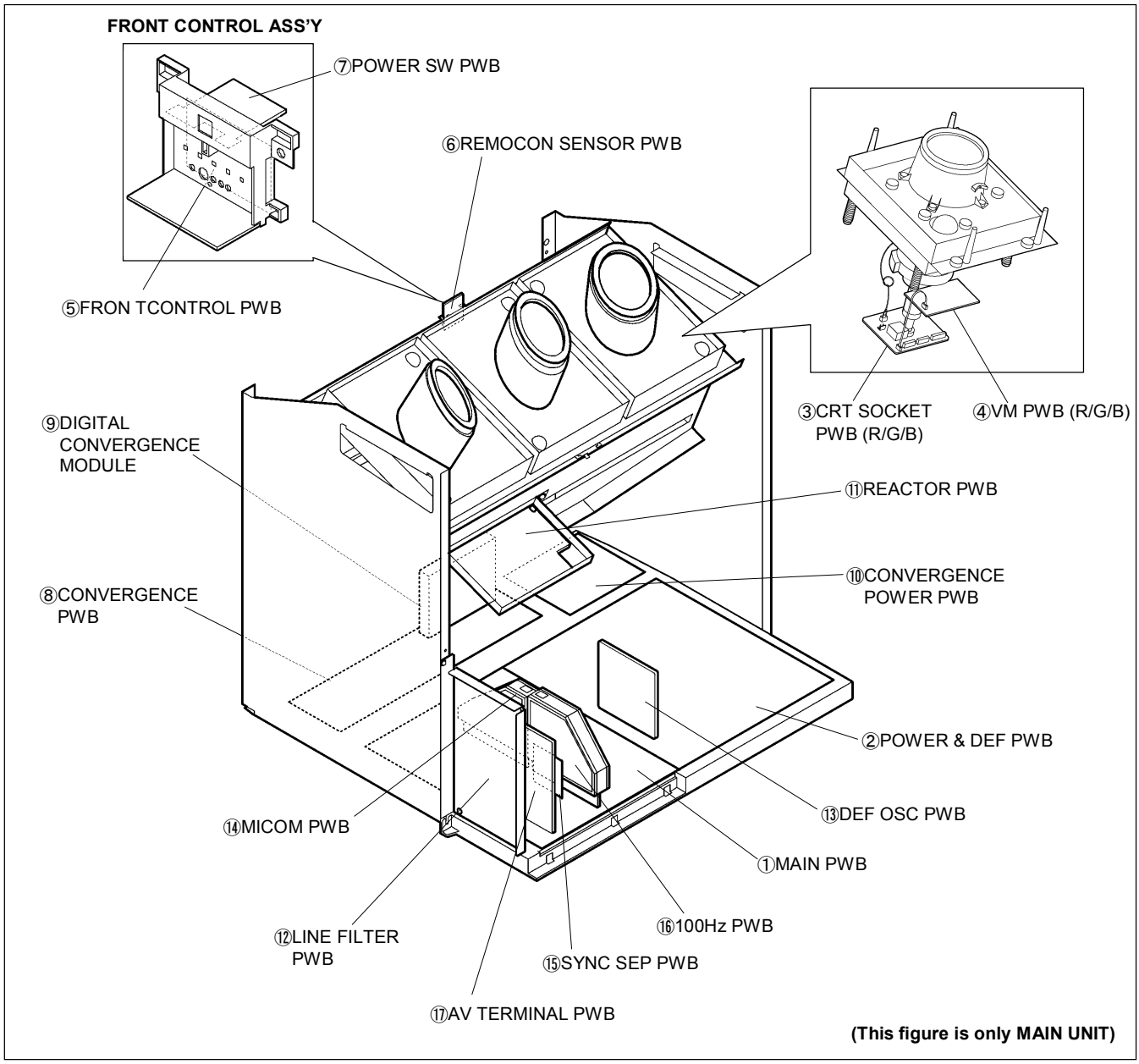
Fig:2

MAIN PARTS LOCATION

■ PWB ASS'Y ARRANGEMENT

The PWB ASS'Y is indicated below.

① MAIN PWB ASS'Y
② POWER & DEF PWB ASS'Y
③ R CRT SOCKET PWB ASS'Y / G CRT SOCKET PWB ASS'Y / B CRT SOCKET PWB ASS'Y
④ R VM PWB ASS'Y / G VM PWB ASS'Y / B VM PWB ASS'Y
⑤ FRONT CONTROL PWB ASS'Y
⑥ REMOCON SENSOR PWB ASS'Y
⑦ POWER SW PWB ASS'Y
⑧ CONVERGENCE PWB ASS'Y
⑨ DIGITAL CONVERGENCE MODULE PWB ASS'Y (Included in CONVERGENCE PWB)
⑩ CONVERGENCE POWER PWB ASS'Y
⑪ REACTOR PWB ASS'Y
⑫ LINE FILTER PWB ASS'Y
⑬ DEF OSC PWB ASS'Y
⑭ MICOM PWB ASS'Y
⑮ SYNC SEP PWB ASS'Y
⑯ 100Hz PWB ASS'Y
⑰ AV TERMINAL PWB ASS'Y



(This figure is only MAIN UNIT)

SPECIFIC SERVICE INSTRUCTIONS

SCREEN HANDLING CAUTIONS

■SCREEN STORAGE

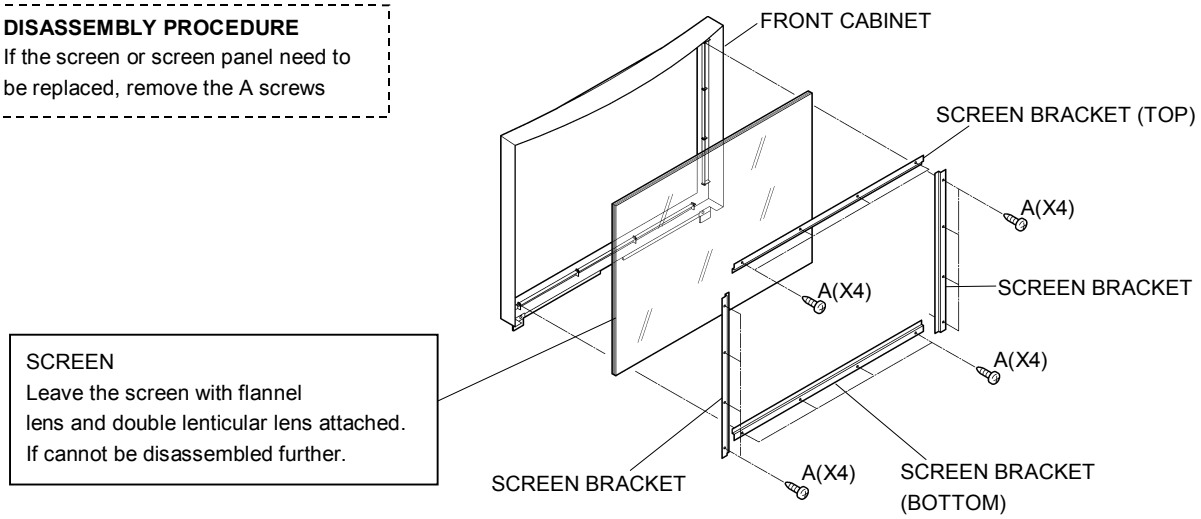
Store the SCREEN ASS'Y in a standing position in order to avoid deformation. If the screen is stored horizontally, there is risk of deforming the screen face.

When necessary to place the SCREEN ASS'Y horizontally, position the screen side upwards and sure to place spacers between the screen and resting site (floor or stand etc.) to prevent the screen from sagging.

■SCREEN SURFACE

Since the screen surface is easily scratched or soiled, use ample care when handling.

■ **DISASSEMBLY PROCEDURE**
If the screen or screen panel need to be replaced, remove the A screws



PROJECTION UNIT REPLACEMENT

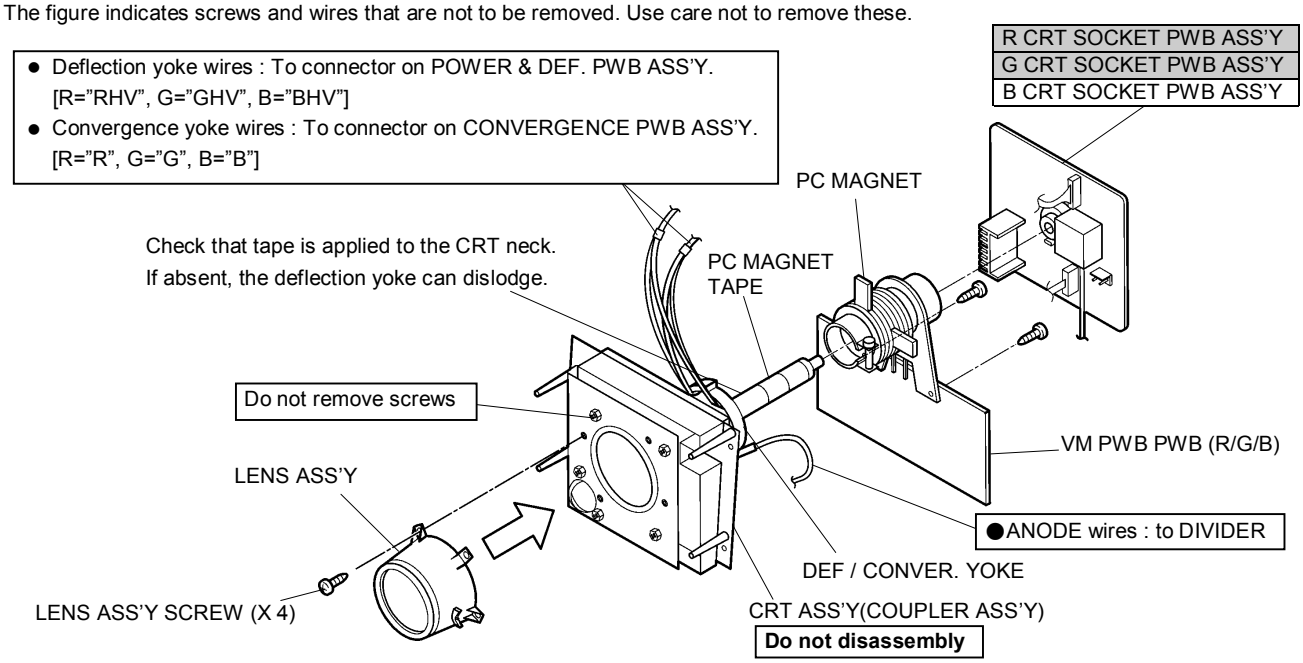
■ADJUSTMENT DURING REPLACEMENT

When replcing the three R, G and B projection units, first replace the R and B units and perform focus / screen / raster centering adjustments With reference to the G unit. Then replace the G unit and perform G focus / screen / convergence adjustment. Finally perform R & B Convergence adjustments. **Use care to simultaneously removes all three-projection units.**

■DISASSEMBLY CAUTION

The projection units include locations that are not to be disassembled during service. When replacing projection unit parts, disassemble to the state indicated in the figure below.

The figure indicates screws and wires that are not to be removed. Use care not to remove these.


● Deflection yoke wires : To connector on POWER & DEF. PWB ASS'Y. [R="RHV", G="GHV", B="BHV"]
● Convergence yoke wires : To connector on CONVERGENCE PWB ASS'Y. [R="R", G="G", B="B"]
R CRT SOCKET PWB ASS'Y
G CRT SOCKET PWB ASS'Y
B CRT SOCKET PWB ASS'Y
PC MAGNET
Check that tape is applied to the CRT neck.
If absent, the deflection yoke can dislodge.
PC MAGNET TAPE
Do not remove screws
VM PWB PWB (R/G/B)
LENS ASS'Y
●ANODE wires : to DIVIDER
DEF / CONVER. YOKE
LENS ASS'Y SCREW (X 4)
CRT ASS'Y(COUPLER ASS'Y)
Do not disassembly

DISASSEMBLY PROCEDURE

SPEAKER GRILLE

1. Remove 4 screws marked Ⓐ from rear side.
2. Remove the SPEAKER GRILLE.

SPEAKER

- Remove the SPEAKER GRILLE
1. Remove 4 screws marked Ⓑ .
2. Remove the SPEAKER.
3. Disconnect the speaker wire from speaker terminal.

FRONT BOARD

- Remove the SPEAKER GRILLE.
1. Remove 4 screws marked Ⓒ from rear side.
2. Remove the FRONT BOARD.

CONTROL BOX

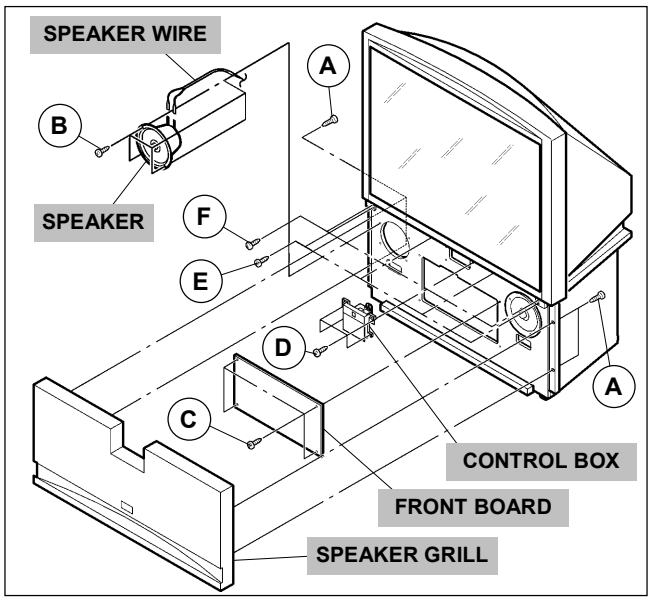
- Remove the SPEAKER GRILLE.
1. Remove 4 screws marked Ⓓ attaching the CONTROL BOX.
2. Disconnect the connector [W], [PS], [H] on the POWER SW PWB.
3. Disconnect the connector [G] , [F], [X], [R], [H] on the FRONT CONTROL PWB.
4. Remove the CONTROL BOX.

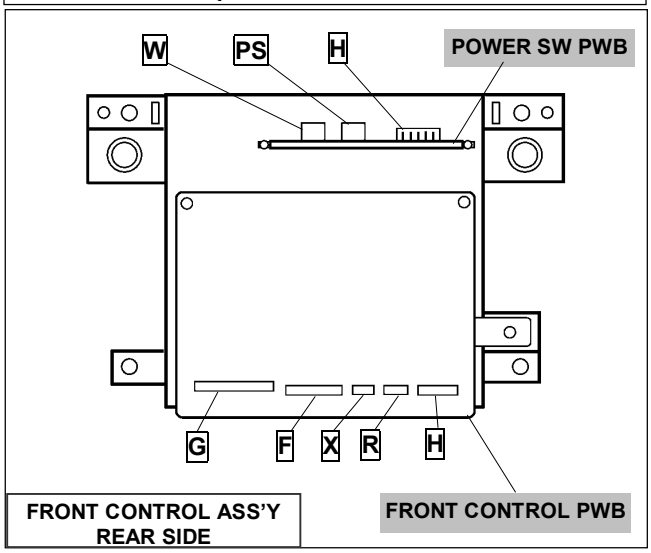
SCREEN ASS'Y

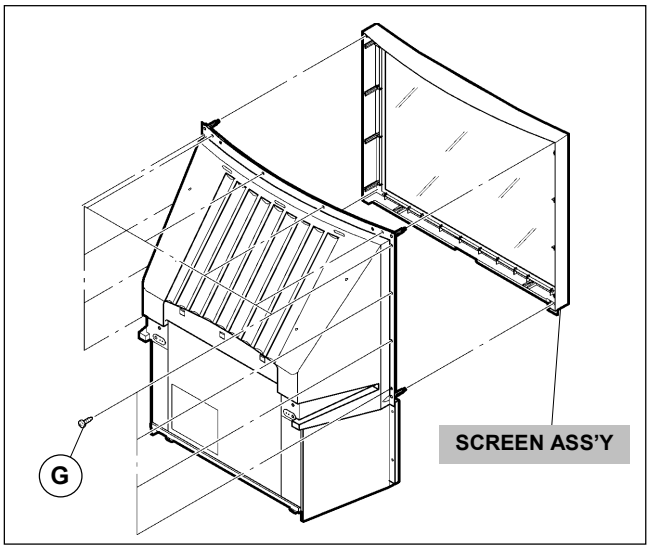
- Remove the SPEAKER GRILLE.
- Remove the CONTROL BOX.
1. Remove 2 screws marked Ⓔ under the SCREEN ASS'Y from front side.
2. Remove 2 screws marked Ⓕ under the SCREEN ASS'Y from front side.
3. Remove 12 screws marked Ⓖ from rear side.
4. Remove the SCREEN ASS'Y.

NOTE :

- Place the screen with face upwards on a flat stand.
- Because of the large size, at least two parsons are recommended for removal and reassemble.
- Use core not to scratch the screen during work.
- During assembly, be sure to engage the left and right tabs with the cabinet mounting positions.
- When than sporting the SCREEN ASS'Y, avoid grasping the top of the screen panel, instead grasp the left and right areas.







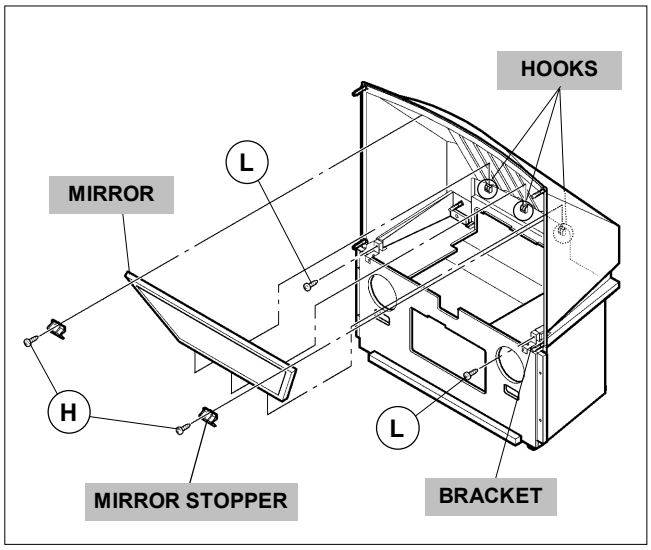
MIRROR

- Remove the SPEAKER GRILLE.
- Remove the CONTROL BOX.
- Remove the SCREEN ASS'Y.

1. Remove 2 screws marked Ⓗ attaching the mirror stopper.
2. Raise slightly to disengage of the mirror from the hooks.
3. Remove the MIRROR.

NOTE :

- The MIRROR is front-coated. Do not touch the front of the MIRROR.
- At least 2 persons are recommended for removing are reassemble.



REAR PANEL

1. Loosen 7 screws marked Ⓘ **.**
2. Remove 4 screws marked Ⓙ .
3. Raise slightly REAR PANEL upward.
4. Remove the REAR PANEL.

PARTITION

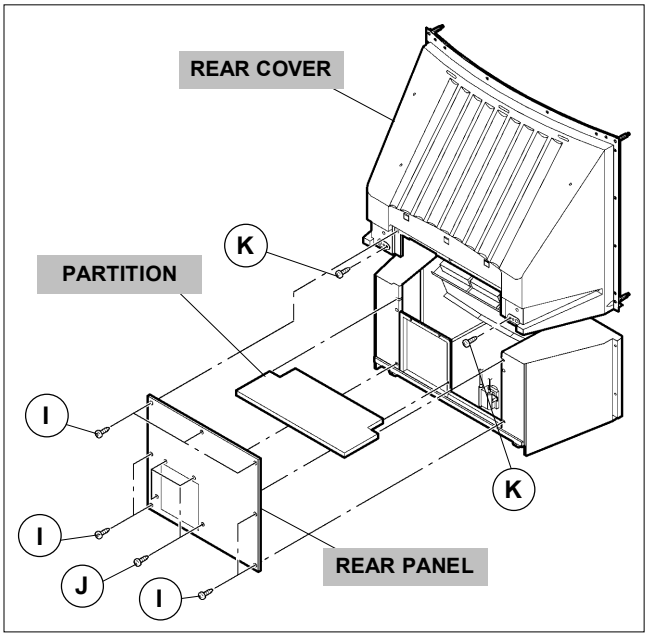
- Remove the REAR PANEL.

1. Remove the PARTITION back ward.

REAR COVER

- Remove the SPEAKER GRILLE.
- Remove the FRONT BOARD.
- Remove the CONTROL BOX.
- Remove the SCREEN ASS'Y.

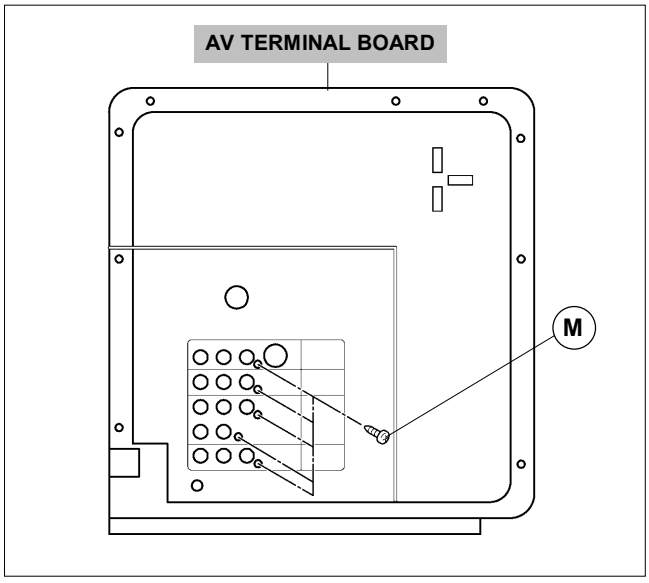
1. Remove 2 screws marked Ⓚ attaching the REAR COVER.
2. Remove 2 screws marked Ⓛ attaching the REAR COVER from front side
3. Slightly pull for backside to disengage of the REAR COVER from hooks.
4. Remove the REAR PANEL.



AV TERMINAL BOARD

- Remove the REAR PANEL

1. Remove 5 screws marked Ⓜ .
2. Remove the power cord clamp from AV TERMINAL BOARD left side.
3. Remove the AV TERMINAL BOARD.



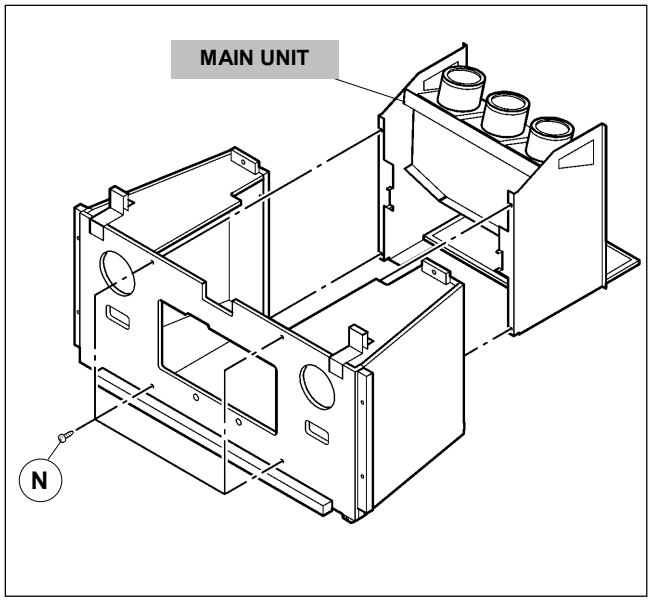
MAIN UNIT

- Remove the SPEAKER GRILLE.
- Remove the FRONT BOARD.
- Remove the CONTROL BOX.
- Remove the SCREEN ASS'Y.
- Remove the REAR COVER.

1. Remove 4 screws marked Ⓝ from front side.
2. Remove the MAIN UNIT rear side.

NOTE :

- Except for confirmation of projection of images on the screen and audio output through the speakers, the removed main unit is still workable in the same state as if it is still built in the TV set. Therefore, the main unit can be removed, if necessary, for board diagnosis, electric testing, etc. apart from confirmation of screen images and audio output.
- When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.
- Because of the large size, at least two persons are recommended for removal and reassemble.
- When carrying the main unit, use care not to drop, shock or shake it.
- Do not stain or damage the lens of the projection unit.
- Do not look through the projection unit.



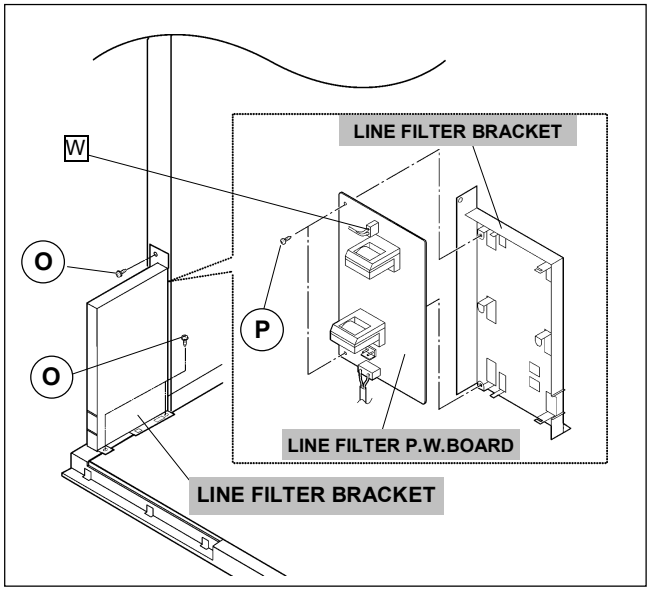
CHECKING THE P.W. BOARD

When checking the MAIN PWB, POWER & DEF PWB, etc., raise the MAIN UNIT with the DIVIDER side down for the sake of convenience.

LINE FILTER P.W. BOARD

- Remove the REAR PANEL.
- Remove the AV TERMINAL BOARD.

1. Disconnect the connector [W] on the LINE FILTER P.W. BOARD.
2. Remove 3 screws marked Ⓞ attaching the LINE FILTER BRACKET.
3. Remove 2 screws marked Ⓟ attaching LINE FILTER P.W. BOARD.
4. Remove the LINE FILTER P.W. BOARD.



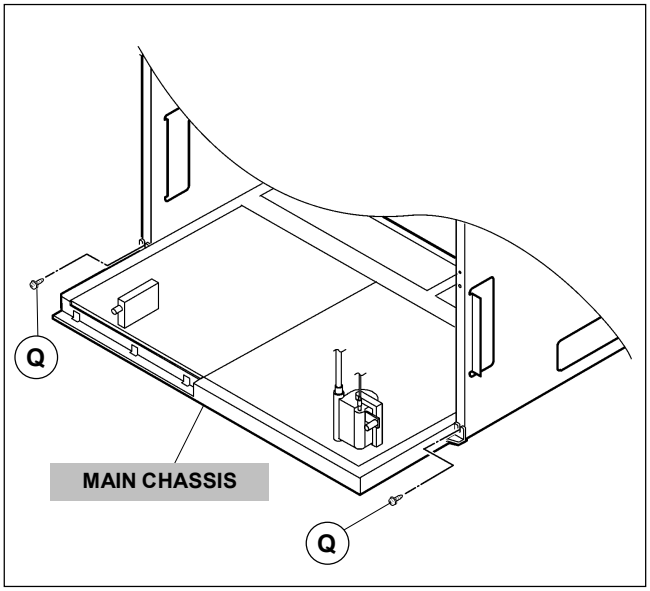
MAIN CHASSIS

- Remove the REAR PANEL.
- Remove the AV TERMINAL BOARD.
- Remove the LINE FILTER BRACKET.

1. Remove 2 screws marked Ⓠ both side of the MAIN CHASSIS.
2. Remove the MAIN CHASSIS for back side.

NOTE :

- If necessary, remove the anode wires, connectors, respectively.



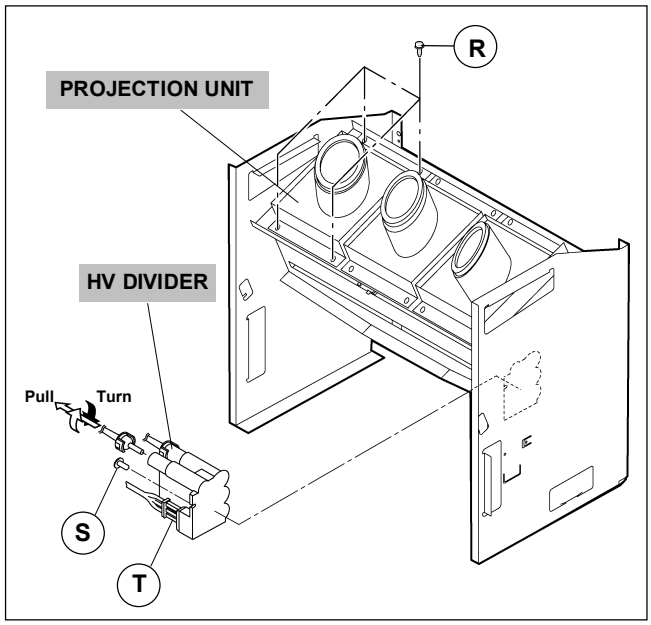
PROJECTION UNIT

- Remove the SPEAKER GRILLE
- Remove the CONTROL BOX
- Remove the SCREEN ASS'Y
- Remove the REAR PANEL
- Remove the REAR COVER

1. Remove the CRT SOCKET PWB.
2. Remove 4 screws marked Ⓡ attaching the PROJECTION UNIT.
3. Remove the PROJECTION UNIT, upward.

NOTE :

- Refer to "PROJECTION UNIT REPLACEMENT" on page10 when taking out and replacing the PROJECTION UNIT.
- When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.



HV DIVIDER

- Remove the REAR PANEL

1. Remove 1 screws marked Ⓢ attaching the DIVIDER.
2. Remove the HV DIVIDER.

∗ Wires of the transformer (FBT) and CRT of each PROJECTION UNIT can be removed by turning the connector portions.

NOTE :

- If necessary, remove the anode wires, and replacing the HV DIVIDER, take care to correctly engage the marked Ⓣ connector.

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

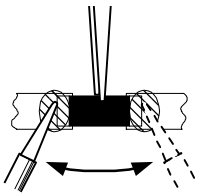
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

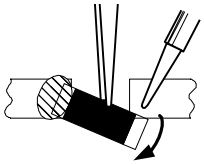
1. How to remove Chip parts

◆ **Resistors, capacitors, etc**

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

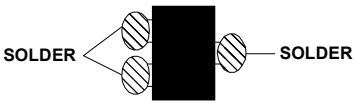


(2) Shift with tweezers and remove the chip part.

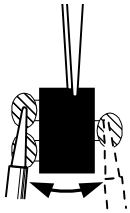


◆ **Transistors, diodes, variable resistors, etc**

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

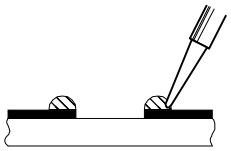


Note : After removing the part, remove remaining solder from the pattern.

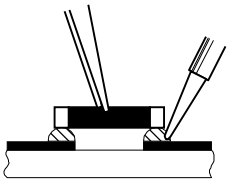
2. How to install Chip parts

◆ **Resistors, capacitors, etc**

(1) Apply solder to the pattern as indicated in the figure.



(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

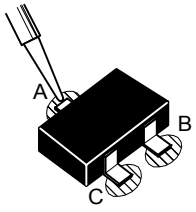


◆ **Transistors, diodes, variable resistors, etc**

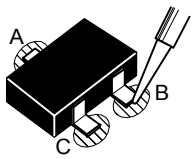
(1) Apply solder to the pattern as indicated in the figure.

(2) Grasp the chip part with tweezers and place it on the solder.

(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



REPLACEMENT OF MEMORY IC

1. MEMORY IC

This PROJECTION TV use memory IC. In the memory IC, there are memorized data for correctly operating the video and deflection circuits. When replacing memory IC, be sure to use IC written with the initial values of data.

2. PROCEDURE FOR REPLACING MEMORY IC

(1) **Power off**
Switch the power off and unplug the power cord from the wall outlet.

(2) **Replace ICs**.
Be sure to use memory IC written with the initial data values.

(3) **Power on**
Plug the power cord into the wall outlet and switch the power on.

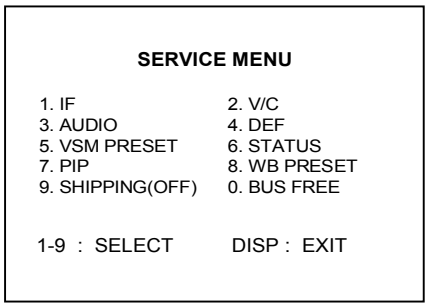


Fig.1

(4) **Check and set SYSTEM CONSTANT SET**

* It must not adjust without signal.

1) Press the DISPLAY key and the PICTURE MODE key of the REMOTE CONTROL UNIT simultaneously.
2) The SERVICE MENU screen of Fig. 1 will be displayed.
3) While the SERVICE MENU is displayed, press the DISPLAY key and PICTURE MODE key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.
4) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION (▼/▲) key, and set the correct value with the FUNCTION (◀/ ▶) key.
5) Press the MENU / OK key to memorize the setting value.
6) Press the DISPLAY key twice, and return to the normal screen.

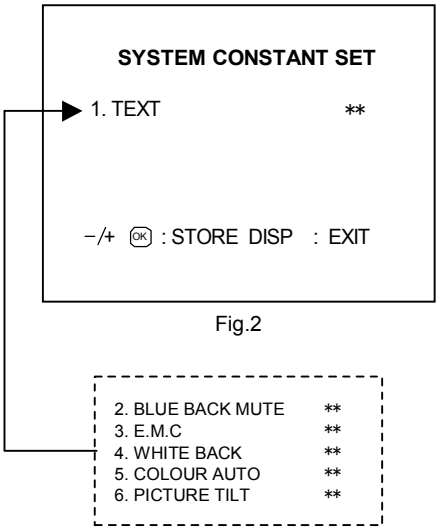
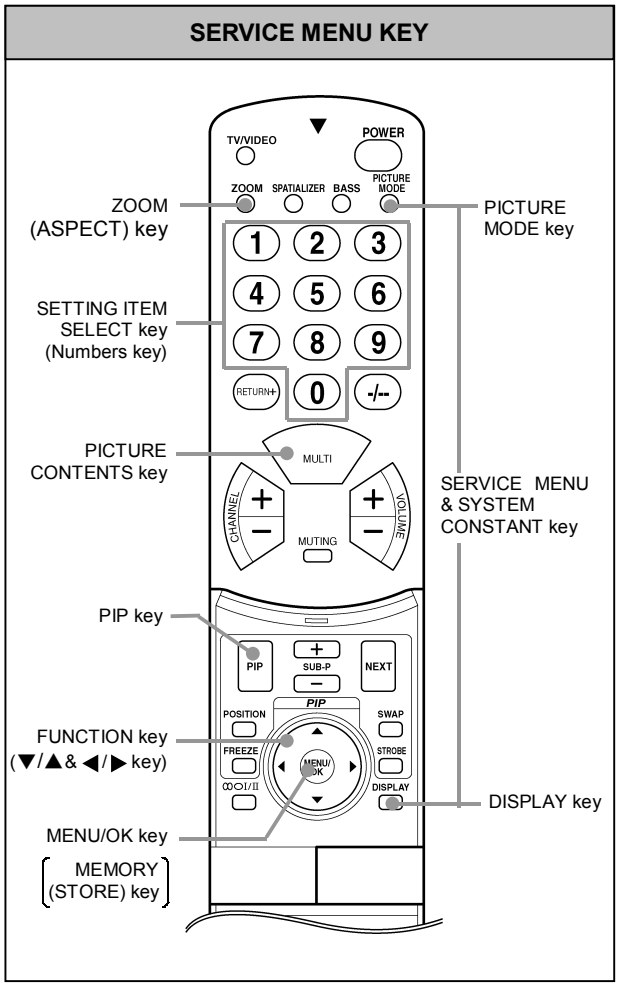


Fig.2



(5) **Setting of receive channels**
Set the receive channel.
For setting, refer to the OPERATING INSTRUCTIONS.

(6) **Setting of SERVICE MENU**
Verify the setting items of the **SERVICE MENU** of Table 2 & Table3, and reset where necessary.
For setting, refer to the SERVICE ADJUSTMENTS.

(7) **User settings**
Check the user setting values of Table 4, and if setting value is different, set the correct value.
For setting, refer to the OPERATING INSTRUCTIONS.

SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

MODEL No. / Setting item	HV-53PRO/K	HV-53PRO/AU
1. TEXT	YES	←
2. BLUE BACK MUTE	NO	←
3. E. M. C	NO	←
4. WHITE BACK	NO	←
5. COLOUR AUTO	NO	←
6. PICTURE TILT	NO	←

SERVICE MENU SETTING ITEMS (TABLE 2)

Setting item	Setting value		Setting item	Setting value
1. IF	1. VCO 2. ATT ON / OFF		5. VSM PRESET BRIGHT STANDARD SOFT	1. CONT. 2. BRIGHT 3. SHARP 4. COLOUR 5. TINT
2. V / C	1. RGB BLK 2. WDR R 3. WDR G 4. WDR B 5. BRIGHT 6. CONTRAST	7. COLOUR 8. TINT 9. SHARP 10. VCO AGC 11. VID AGC 12. SYNC SLI	6. STATUS **(Do not adjust)**	1. SOFT 2. TELETEXT 3. ASPECT
3. AUDIO **(Do not adjust)**	1. ERR LIMIT 2. A2 ID THR 3. QUASI		7. PIP	1. PIP VCO ADJ 2. PIP VID AGC 3. PIP SNC SLI
4. DEF.	1. V-SHIFT 2. V-SIZE 3. H-CENT 4. H-SIZE 5. TRAPEZ 6. EW-PIN 7. COR-PIN	8. COR-UP 9. COR-LO 10. ANGLE 11. BOW 12. V-S.CR 13. V-LIN	8. WB PRESET COOL MID WARM	1. WDR R 2. WDR G 3. WDR B

SERVICE MENU STANDARD SETTING VALUES (TABLE 3)

■ **PICTURE MODE SETTING VALUE : (5. VSM PRESET)**

VSM preset mode / Setting item	BRIGHT	STANDARD	SOFT
1. CONT.	+16	+2	-2
2. BRIGHT	0	0	0
3. SHARP	-5	-5	-7
4. COLOUR	+3	0	-2
5. TINT	0	0	0

■ **WHITE BALANCE SETTING VALUE : (8. WB PRESET)**

WB preset mode / Setting item	COOL	MID	WARM
1. WDR R	+3	0	+9
2. WDR G	0	0	0
3. WDR B	+9	0	+2

USER SETTING VALUES (TABLE 4)

Setting item	Setting value	Setting item	Setting value
MAIN POWER SW	OFF	SUB POWER	ON
SHIPPING CHANNEL	PR1	DISPLAY	INDICATED
PRESET CHANNEL	See ; OPERATING INSTRUCTIONS.	VOLUME LEVEL	10
PICTURE SETTING		**INSTALL**	
PICTURE MODE	BRIGHT	LANGUAGE	ENGLISH
CONTRAST	+16	AUTO PROGRAM	● Automatically register the TV channel
BRIGHT	0	EDIT	PR channel only Other : space
SHARP	-5		
COLOUR	+3	TELETEXT LANGUAGE	GROUP-1
WHITE BALANCE	COOL		
DIGITAL ECO SENSOR	OFF		
PICTURE FEATURES		**FEATURES**	
DIGITAL VNR	AUTO	SLEEP TIMER	OFF
Digi Pure Pro	AUTO	CHILD LOCK	OFF (for all the channels)
PULL DOWN	AUTO	CHANNEL GUARD	ALL CH : OFF
COLOUR SYSTEM	● TV : Depends on Preset channel ● VIDEO : AUTO	AUTO SHUT OFF	OFF
		VIDEO-3 SETTING	COMPONENT
ZOOM	REGULAR	BLUE BACK	ON
DIGITAL CONVERGENCE	● Adjust CRT colour convergence		
SOUND SETTING			
BASS	CENTER	BEE	ON
TREBLE	CENTER	SPATIALIZER	OFF
BALANCE	CENTER	SUPER BASS	ON
AI VOLUME	ON	HEAD PHONE	ON

SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENT

1. **There are 2 ways of adjusting this TV: One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.**
2. **The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.**
3. Make sure that connection is correctly made to AC power source.
4. Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
5. If the receive or input signal is not specified, use the most appropriate signal for adjustment.
6. **Never touch parts** (such as variable resistors, transformers and condensers) **not shown in the adjustment items of this service adjustment.**
7. Preparation for adjustment (presetting):
   Unless otherwise specified in the adjustment items, preset the following functions with the REMOTE CONTROL UNIT.

● Setting position

COLOUR SYSTEM	AUTO
ZOOM	REGULAR
PIP	OFF (One Screen)
PICTURE MODE (VSM)	CONT = 0 BRIGHT = 0 SHARP = 0 COLOUR = 0 TINT = 0
WHITE BALANCE	MID
SUPER BASS	OFF
SPATIALIZER	OFF
TREBLE	CENTER
BASS	CENTER
BALANCE	CENTER
BBE	OFF
SLEEP TIMER	OFF
AUTO SHUTOFF	OFF

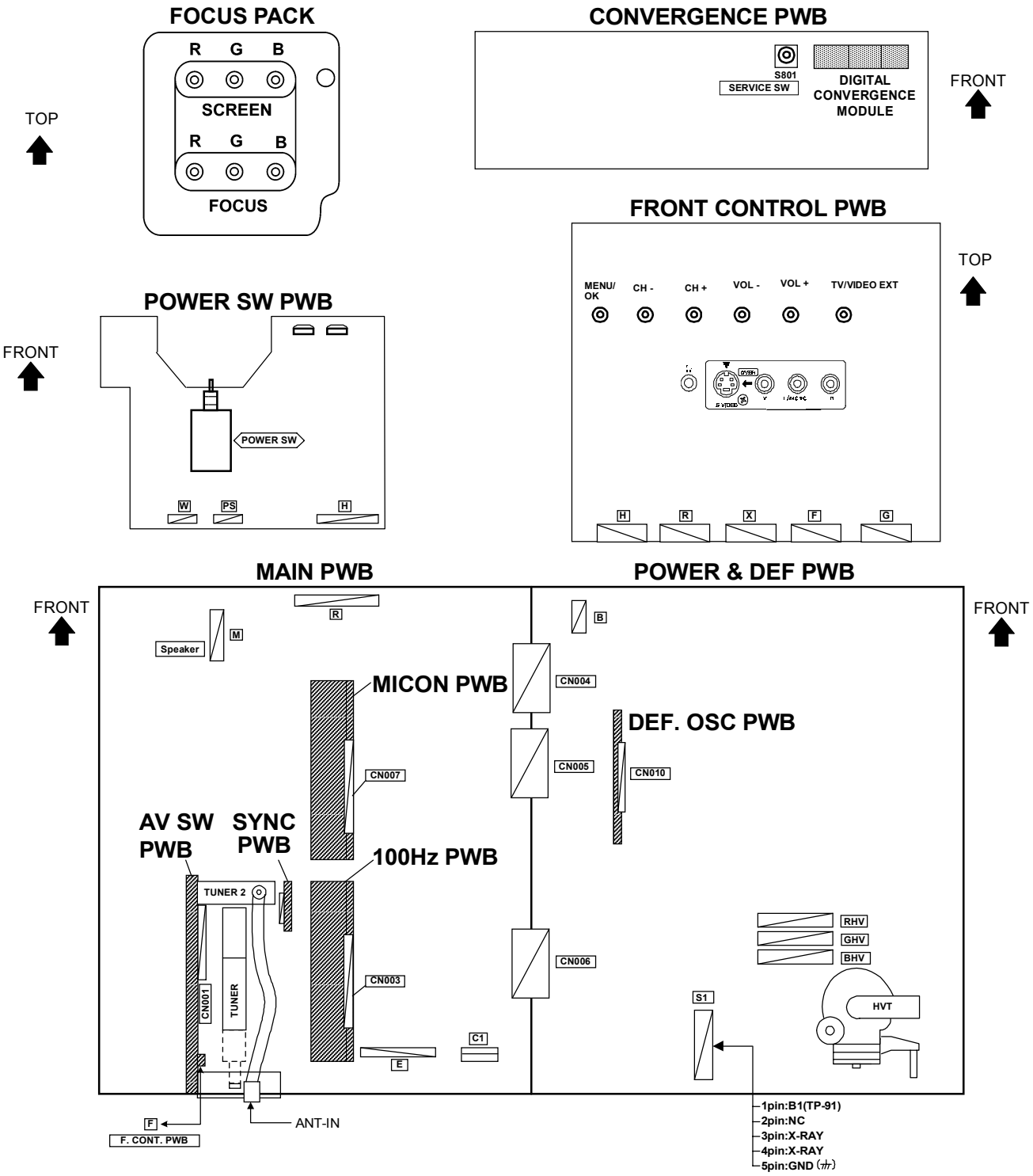
MEASURING INSTRUMENT AND FIXTURES

1. DC voltmeter (or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [PAL / SECAM / NTSC]
4. Remote control unit

ADJUSTMENT ITEMS

- CHECKING ITEMS
- FOCUS & BEEM SPOT ADJUSTMENT
- CONVERGENCE & DEFLECTION ADJUSTMENT
- VSM PRESET SETTING
- WHITE BALANCE PRESET SETTING
- VIDEO / CHROMA CIRCUIT ADJUSTMENT
- PIP COLOUR DECODER VCO SETTING
- AUDIO CIRCUIT ADJUSTMENT **(Do not adjust)**

ADJUSTMENT LOCATIONS



BASIC OPERATION SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

(1) **1. IF** ····· This mode adjusts the setting values of the IF circuit.
(2) **2. V/C** ····· This mode adjusts the setting values of the VIDEO / CHROMA circuit.
(3) **3. AUDIO** ····· This mode adjusts the setting values of the SOUND circuit. (Do not adjust)
(4) **4. DEF** ····· This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.

ZOOM (ASPECT)	V. FREQ.
REGULAR	100Hz i / 60Hz p
ZOOM	↑

(5) **5. VSM PRESET** ····· This mode adjusts the initial setting values of Bright, Standard & soft.
(VSM : Video Status Memory)
(6) **6. STATUS** ····· It is no requirement to adjustment.
(7) **7. PIP** ····· This mode adjusts the setting values of the PIP circuit. (PIP : Picture In Picture)
(8) **8. WB PRESET** ····· This mode adjusts the setting values of the WHITE BALANCE.
(9) **9. SHIPPING(OFF)** ····· This mode adjusts the setting values of the channel presettings.
If you turn the SHIPPING position set ON.
This setting becomes channel presetting automatically.
Also you turn the TV power off, this setting become OFF position automatically.
(10) **0. BUS FREE** ····· It is not requirement to adjustment.

3. BASIC OPERATION OF SERVICE MENU

(1) **How to enter SERVICE MENU**
Press the PICTURE MODE key and the DISPLAY key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

(2) **Selection of SUB MENU SCREEN**
Press one of keys 1～9 of the REMOTE CONTROL UNIT and select the SERVICE MENU item (See Fig. 1) form the SERVICE MENU.
SERVICE MENU → SUB MENU

1. IF	**6. STATUS (Do not adj.)**
2. V / C	**7. PIP**
3. AUDIO (Do not adj.)	**8. WB PRESET**
4. DEF.	**9. SHIPPING (OFF)**
5. VSM PRESET	**0. BUS FREE(Do not adj.)**

SERVICE MENU

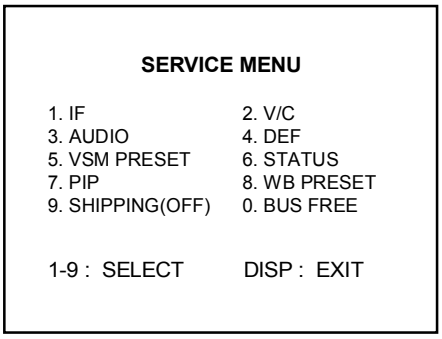


Fig.1

SERVICE MENU KEY

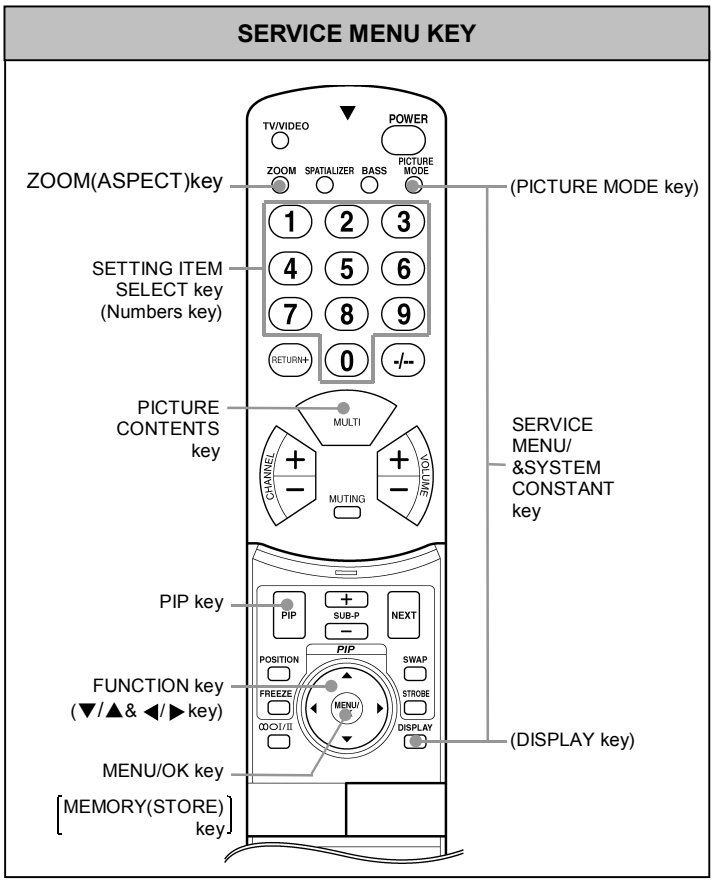


Fig.2

SERVICE MENU SCREEN FLOWCHART

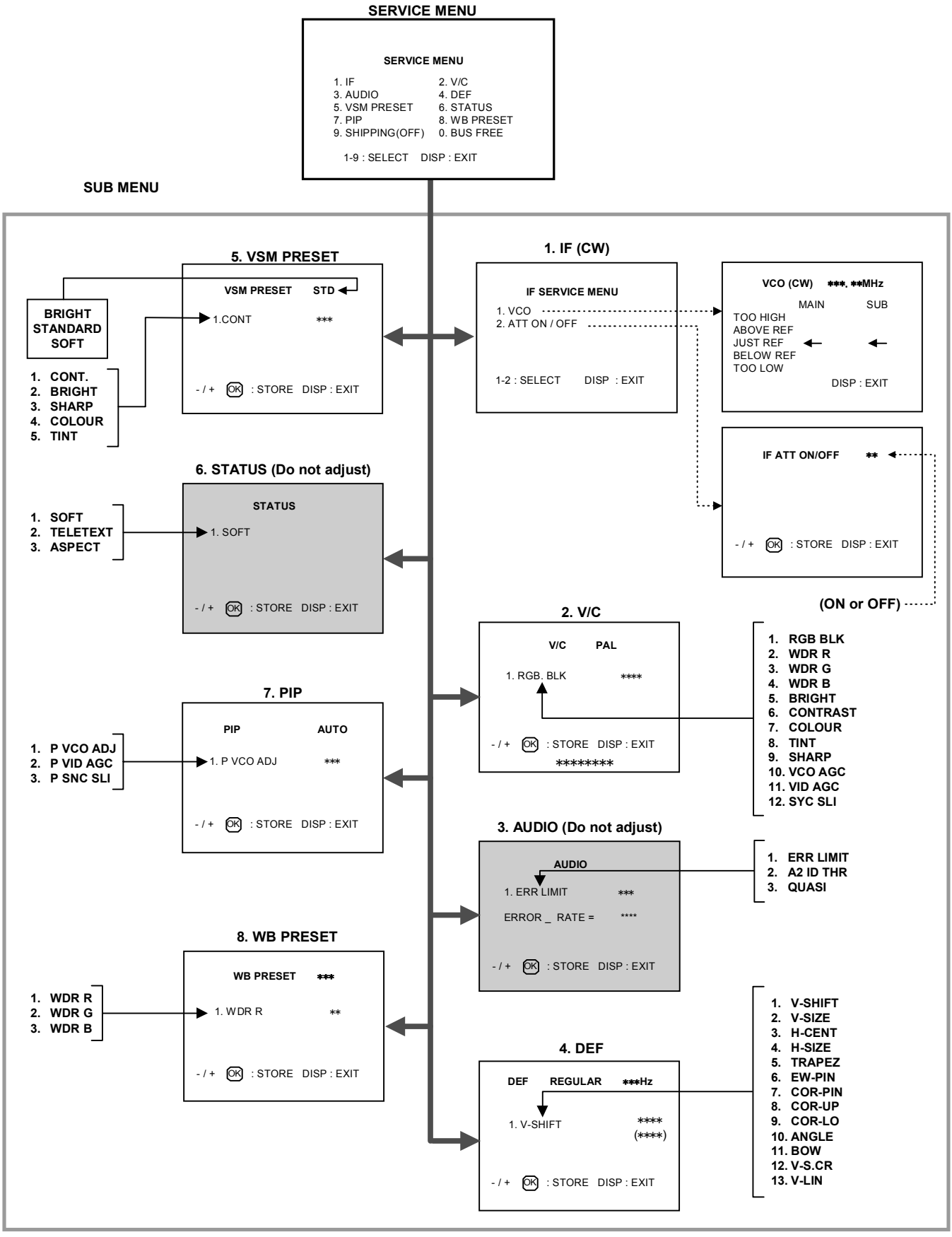


Fig. 3

(3) **Method of Setting**

● Method of Setting **1.IF**

[VCO] ····· ∗ It must not adjust without signal

① 1 Key····· Select 1.IF.

② 1 Key ····· Select 1. VCO (CW)
Check the arrow position JUST REF.

③ 2 Key····· Select 2.ATT ON/OFF (Strong Electric Field : ON / Generally Electric Field : OFF)

④ DISPLAY(DISP) Key····· Return to the SERVICE MENU screen.

● Method of setting **2.V/C, 4.DEF**, **5.VSM PRESET, 7.PIP and 8.WB PRESET.**

① 2, 4, 5, 7 & 8 Key····· Select one from **2. V/C, 4. DEF, 5. VSM PRESET, 7.PIP & 8.WB PRESET.**

② FUNCTION ▼/▲ Key····· Select setting items.

③ FUNCTION ◀/▶ ····· Set (adjust) the setting values of the setting items.

④ MENU / OK Key····· Memorize the setting value.
(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key - if you do, the values will not be stored in memory.)

⑤ DISPLAY (DISP) Key ····· Return to the **SERVICE MENU** screen.

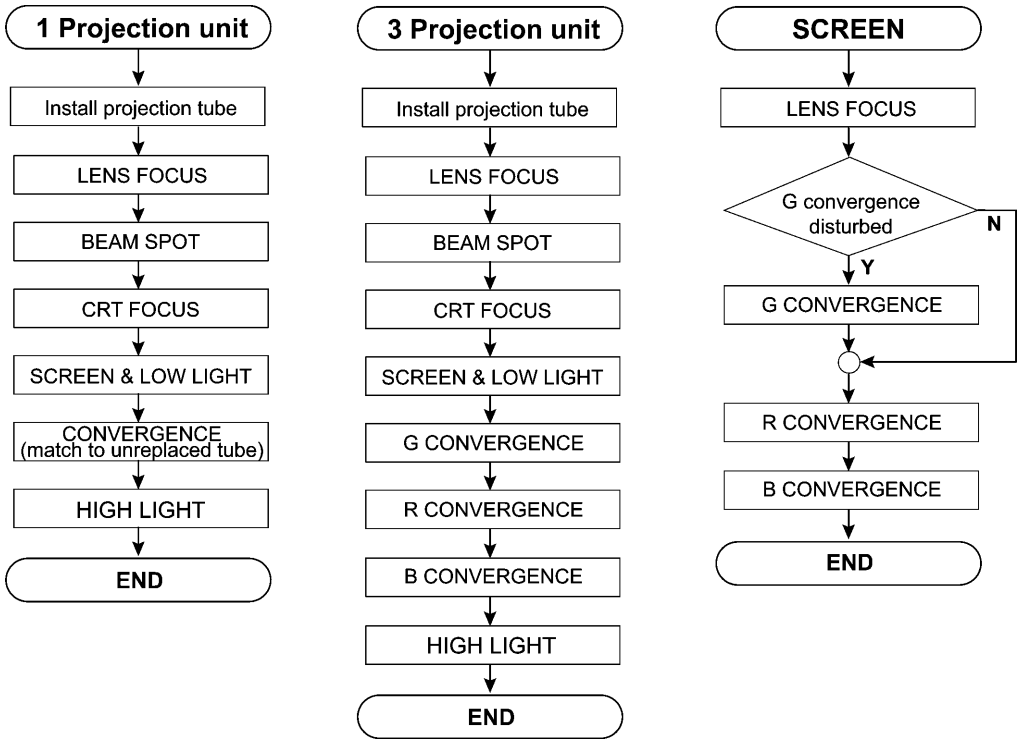
● **3. AUDIO, 6. STATUS, 9. SHIPPING(OFF) & 0. BUS FREE.**
It is not requirement to adjustment.

(4) **Release of SERVICE MENU**

1) After completing the setting, return to the SERVICE MENU, then again press the DISPLAY (DISP) key.

ADJUSTMENT FLOWCHART [When replacing screen and projection tubes]

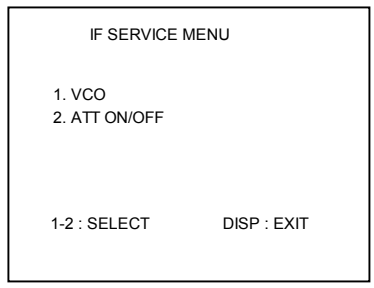
●Contains only the main adjustments. Also confirm other adjustments as required.

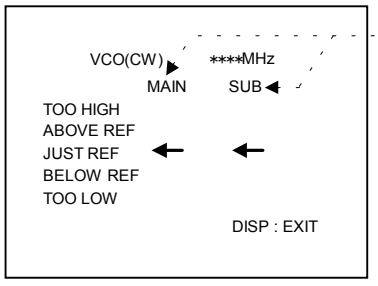


ADJUSTMENT

■CHECKING ITEM

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 Power Supply	**Signal Generator** **DC voltmeter** **Remote Control unit**	**TP-91(B1) (① pin)** **TP-E(⏚) (⑤ pin)** **[S1 connector on the POWER & DEF PWB]**	**1. RGB BLK**	1. Receive any broadcast. 2. Press the ZOOM key and select the REGULAR mode. 3. Select 2. V / C from the SERVICE MENU. 4. Select 1. RGB BLK with function UP / DOWN(▲/▼) key. 5. Press the function RIGHT(▶) key to find the cut off screen (Black screen). 6. Connect a DC voltmeter to TP-91(B1) and TP-E(⏚). 7. Make sure that the voltage is DC140.0V ±2.0V. 8. Press the function LEFT(◀) key to return to service menu.
Check of High Voltage	**Signal Generator** **HV voltmeter** **Remote Control unit**	**CRT anode**	**1. RGB BLK**	1. Receive any broadcast. 2. Press the ZOOM key and select the FULL mode. 3. Select 2. V / C from the SERVICE MENU. 0. Select 1. RGB BLK with function UP / DOWN(▲/▼) key. 5. Press the function RIGHT(▶) key to find the cut off screen (Black screen). 6. Connect a HV voltmeter to CRT ANODE and chassis GND. 7. Make sure that the voltage is DC **31.0kV** $^{+1kV}_{-1.5kV}$. 8. Press the function LEFT(◀) key to return to service menu. ∗ Remove the probe before removing the earth clip.
Check of VCO	**Remote control unit**		**1. VCO** **2. ATT ON/OFF**	● Under normal conditions, no adjustment is required. ● Confirmation adjustment. 1. Select 1.IF from the SERVICE MENU. 2. Then select 1.VCO from the IF SERVICE MENU. 3. Receive any broadcast. 4. Check the MAIN arrow (←) position between the ABOVE REF. and BELOW REF. 5. Press the MENU (OK) key and receive any broadcast with PIP Button. 6. Check the SUB arrow (←) position between the ABOVE REF and BELOW REF. ∗ The arrow (←) position means AFC voltage level. ∗ **2. ATT ON / OFF** : Generally Electric Field : **OFF** : Strong Electric Field : **ON** ∗ Change the MAIN and SUB by MENU / OK key .

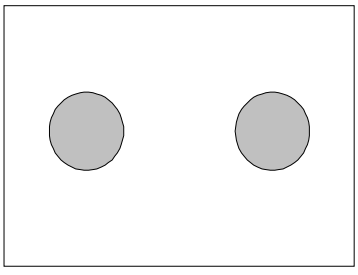




Change by OK key

■FOCUS & BEAM SPOT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS & BEAM SPOT	**Signal Generator** **Similar adhesive (Securing adhesive)**		**G Def. Yoke (DY)** **R Def. Yoke (DY)** **B Def. Yoke (DY)** **R/G/B LENS FOCUS screw** **[Projection unit LENS ASS'Y]** **R SCREEN VR** **G SCREEN VR** **B SCREEN VR** **[FOCUS PACK]** **4 pole magnet** **2 pole magnet** **[Projection unit CRT neck]** **R FOCUS VR** **G FOCUS VR** **B FOCUS VR** **[FOCUS PACK]**	1. Receive a cross-hatch signal. 2. Press the ZOOM key and select the REGULAR mode. 3. If the picture tilted, adjust the R, G and B DY. ■ **LENS FOCUS** 4. Makes a red single colour. **NOTE** : When making a single colour, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment colour and it makes it single colour. 5. By turning the LENS FOCUS screw (in LENS ass'y), for optimum focus at the screen center. Check for absence of difference in the peripheral focus. If the peripheral focus is poor, slightly shift the center focus to obtain overall balanced focus. 6. In the same manner, produce green and blue single colours and adjust their respective focus. 7. After adjustment, it fixes a screw. **NOTE** : There is not a difference in the focus in the top and the bottom, on either side, in the diagonal. When the difference of the focus is big, it removes a main lens, and it puts a washer between the main lens and the coupler and it adjusts it. ■ **BEAM SPOT** 8. Receive a dot signal. 9. Makes a red single colour. **NOTE** : When making a single colour, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment colour and it makes it single colour. 10. Turn the R FOCUS VR to set the dot diameter to about 30mm. 11. Turn the 4 pole magnet of the projection unit CRT neck and to where the dots at the screen center are nearly circular. 12. Return the R FOCUS VR to its original position. 13. Turn the 2 pole magnet of the CRT neck to minimize expansion of the dots. 14. Receive a crosshatch signal. 15. Adjust the overall screen focus. 16. In the same manner, adjust for the green and blue single colour. focus. 17. Secure the 4 and 2 pole magnets with similar adhesive. ■ **CRT FOCUS** 18. Receive a crosshatch signal. 19. Makes a red single colour. **NOTE** : When making a single colour, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment colour and it makes it single colour. 20. Adjust the R FOCUS VR for optimum focus at the position indicated in the figure. 21. In the same manner, adjust for the green and blue single colour. focus. 22. After adjustment, return the SCREEN VRs to their original positions. **NOTE** : **When moving screen VR, always return to original.**



CRT FOCUS adjustment

■DEFLECTION & CONVERGENCE ADJUSTMENT

DEFLECTION ADJUSTMENT

There are 2 frequency modes (①100Hz i , ②60Hz p) of the adjustment, depending upon the kind of signals (V. freq. 100Hz i / 60Hz p).

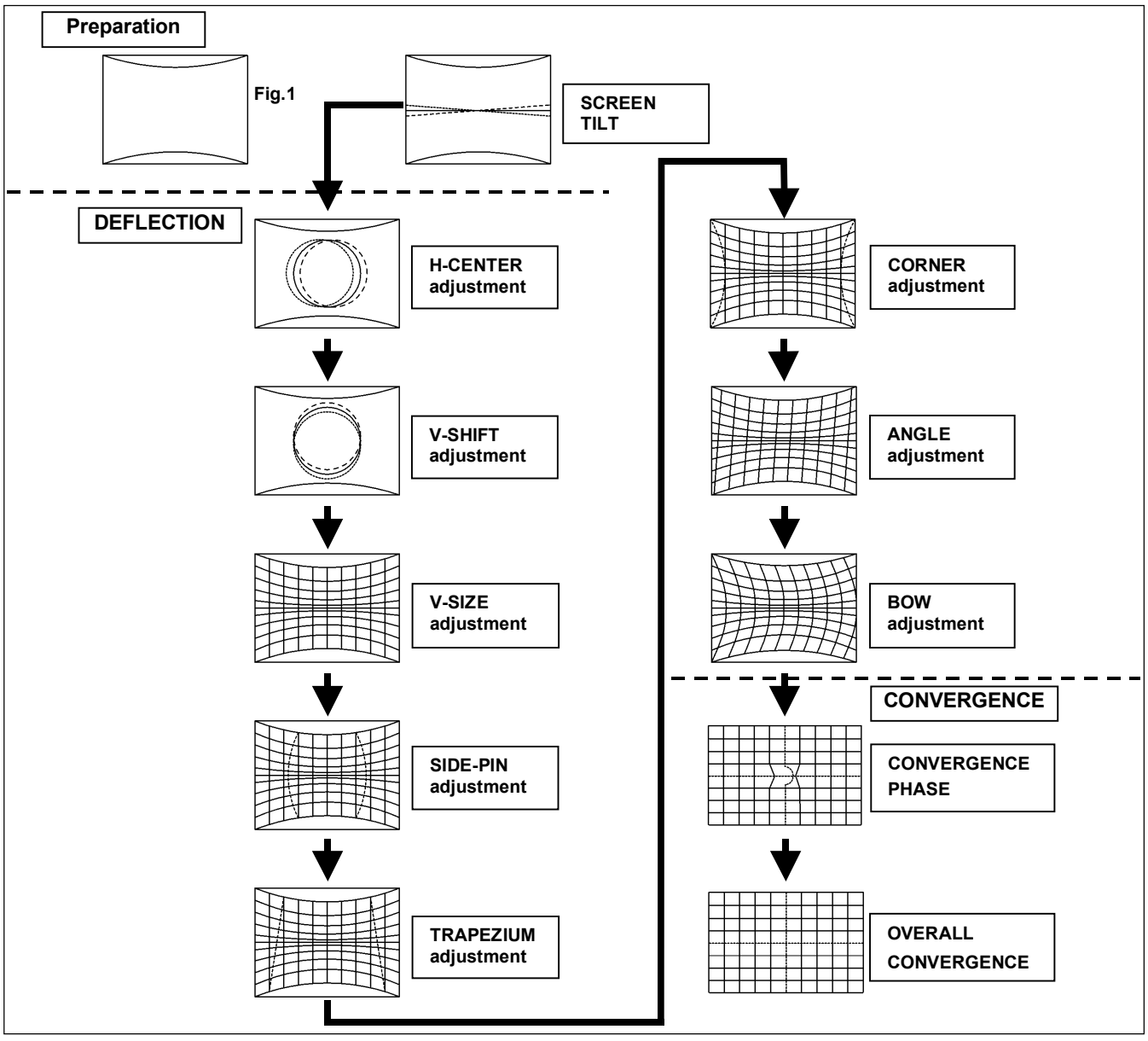
- **The adjustment using the remote control unit is made on the basis of the initial setting values.**
- **The setting values which adjust the screen to the optimum condition can be different from the initial setting values.**
- **At first the adjustment in 100Hz REGULAR mode should be done, then the data for the other ZOOM mode is corrected in the respective value at the same time.**
  And confirm the deflection adjustment initial setting value in 60Hz (NTSC EXT mode) REGULAR mode.
- **If the adjustment in 100Hz REGULAR mode has been done and stored, the data for the other ZOOM modes is corrected in the same value at the same time.**
- **Only the data for the other ZOOM mode in 60Hz is corrected for it self.**

FLOWCHART OF ADJUSTMENT

CAUTION

All adjustments of the DEF circuit for this model should be carried out under the status without convergence operation.
To enter the status without convergence operation turn the power on while pressing the service switch S801 on the convergence PWB. As a result, you can get the screen as shown in Fig.1. Adjust the DEF circuit in order of the steps indicated by the downward arrows.

Note: When every adjustment of the DEF circuit has completed, start the adjustment of convergence.



INITIAL SETTING VALUE TABLE

Setting item	Initial setting value	
	REGULAR	
	100Hz i	60Hz p
1. V- SHIFT	0	+6
2. V-SIZE	-7	-6
3. H-CENT	-5	+2
4. H-SIZE	+74	-2
5. TRAPEZ	-4	+8
6. EW-PIN	-16	-6
7. COR-PIN	0	0
8. COR-UP	0	0
9. COR-LO	0	0
10. ANGLE	0	0
11. BOW	0	0
12. V-S.CR	+6	+5
13. V-LIN	-9	+5

FIXED VALUE : **Do not move.**

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of DY TILT (SCREEN TILT)	**Pattern generator**		**G Def. Yoke (DY)** **R Def. Yoke (DY)** **B Def. Yoke (DY)** **[Projection unit]** **SERVICE SW (S801) [CONVERGENCE PWB]**	• Confirm initial setting value settings for 4. DEF of SERVICE MENU • Confirm correct Focus adjustment. 1. It pushes a power switch while pushing **SERVICE SW S801** on the CONVERGENCE PWB then it makes picture without convergence operation. 2. Makes a red single colour. **NOTE** : When making a single colour, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment colour and it makes it single colour. 3. Receive a PAL crosshatch signal. 4. Fastens G-DY to the topmost part of the CRT neck temporarily and adjusts the inclination of DY for the horizontal line in the center to become level. 5. Tightens a screw of the temporary stopping. 6. In the same manner, adjust the tilt of the R and B deflection yokes. 7. After adjusting G, R and B, check for optimum focus at the center of the screen. If adjust is deviated, repeat the above procedure from step 4 onward.

H-CENTER ADJUSTMENT

<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>Adjustment of H-CENTER (G CENTERING)</td><td>Signal generator

Remote control unit</td><td></td><td>3.H-CENT

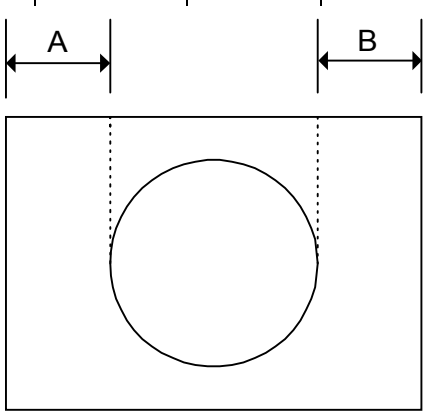
G SCREEN VR [FOCUS PUCK]

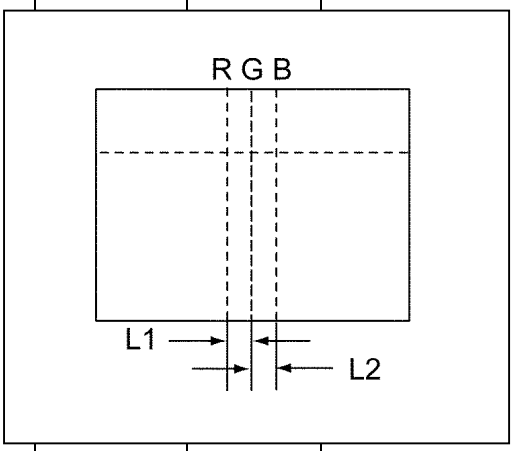
G CENTERING MAGNET [CRT neck]

SERVICE SW (S801) [CONVERGENCE PWB]</td><td>• Confirm initial setting value settings for 4. DEF of SERVICE MENU
• Confirm correct Focus adjustment.
1. It pushes a power switch while pushing SERVICE SW S801 on the CONVERGENCE PWB then it makes picture without convergence operation.
2. Receive a cross-hatch signal.
3. Makes a green single colour.
NOTE : When making a single colour, It squeezes SCREEN VR in each one, or it does a lid to the lens in of the adjustment colour and it makes it single colour.
4. Until retrace comes out, it turns G SCREEN VR.
5. Select 4.DEF from SERVICE MENU.
6. 3.H-CENT or, operate 4.H-SIZE and shorten the level and perpendicular amplitude of vibration width until the blanking in the top and the bottom and on either side can be seen
7. It adjusts lusterware using the G CENTERING MAGNET of green for the blanking width in the top and the bottom, on either side to become equal.
8. It fixes a magnet on rock paint and so on.
9. Turn the G SCREEN VR for the screen to become suitable light.
10. Receive a circle pattern signal.
11. Select 3.H-CENT and adjust H-CENT to make A=B
12. Select 4.H-SIZE and adjusts horizontal amplitude to 92 %.
13. Press the MENU / OK key and memorize the set value.</td></tr>
<tr><td>Adjustment of H-CENTER (R CENTERING & B CENTERING)</td><td>Signal generator</td><td></td><td>SERVICE SW (S801) [CONVERGENCE PWB]

R / B CENTERING MAGNET [CRT neck]</td><td>14. It pushes a power switch while pushing SERVICE SW S801 on the CONVERGENCE PWB then it makes picture without convergence operation.
15. Receive a cross-hatch signal.
16. Press S801 again, then changing the blinking cross-hatch pattern.
17. Adjust the tilt of the R and B deflection yokes using the R and B CENTERING MAGNET as green. However, the tilt of the R and B deflection yokes in the horizontal direction should be adjusted so that the center line of the blinking crosshatch pattern is offset against the green lusterware as shown in the following table. For the vertical direction, adjust the tilt of the R and B deflection yokes so that the blinking horizontal line agrees with G.
18. It fixes a magnet on Rock Paint and so on.

<table><tr><th>Length</th><th>L1</th><th>L2</th></tr><tr><td>53”</td><td>25mm</td><td>0mm</td></tr></table></td></tr>
</table>



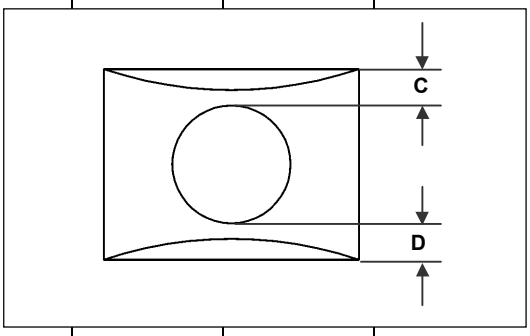


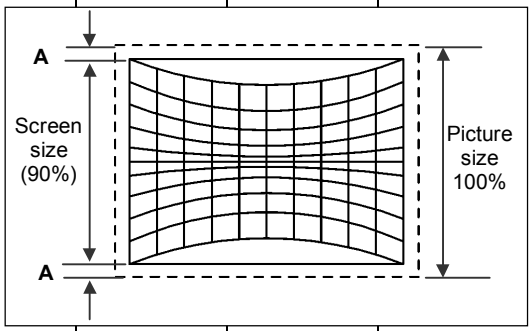
DEFLECTION CIRCUIT ADJUSTMENT

<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>Adjustment of V-SHIFT</td><td>Signal generator

Remote control unit</td><td></td><td>1.V- SHIFT

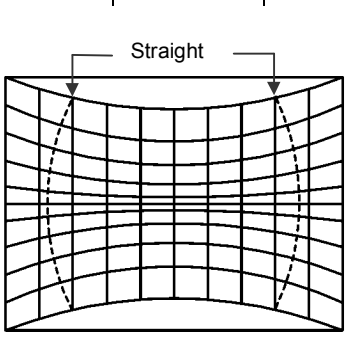
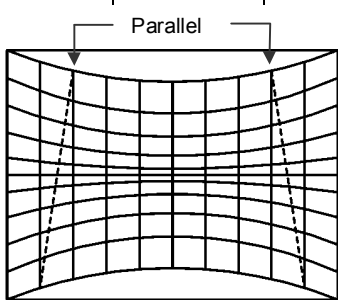
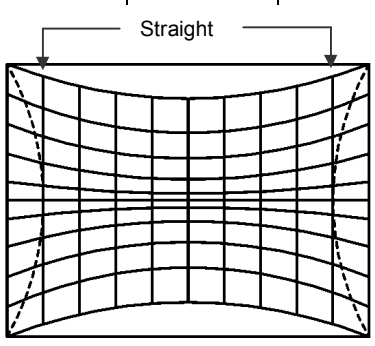
SERVICE SW (S801)
[CONVERGENCE PWB]</td><td>1. It pushes a power switch while pushing SERVICE SW S801 on the CONVERGENCE PWB then it makes picture without convergence operation.
2. Cap the B LENS and R LENS.
3. Receive a circle pattern signal of vertical frequency 50Hz
4. Select 4.DEF from the SERVICE MENU.
5. Select 1.V-SHIFT with the function UP / DOWN(▲/▼) key.
6. Adjust V-SHIFT to make C = D.
7. Press the MENU / OK key and memorize the set value.</td></tr>
<tr><td>Adjustment of V-SIZE</td><td></td><td></td><td>2.V-SIZE</td><td>8. Receive a cross-hatch signal.
9. Select 2.V-SIZE and set the initial setting value.
10. Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the bellow table.
11. Press the MENU / OK key and memorize the set value.
12. Input a NTSC VIDEO signal (60Hz) from the EXT terminal, and make sure that the vertical screen size is in the below table.
13. Press the MENU / OK key and memorize the set value.</td></tr>
</table>





53”	V-SIZE adjustment value	
	PAL	NTSC
A	55mm	80mm

[SCREEN SIZE]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SIDE-PIN			**6.EW-PIN**	14. Select 6.EW-PIN and set the initial setting value 15. Adjust SIDE-PIN and make the 2nd.vertical lines at the left and right edges of the screen straight. 16. Press the MENU / OK key and memorize the set value.
Adjustment of TRAPEZIUM	**Signal generator** **Remote control unit** 		**5.TRAPEZ**	17. Receive a cross-hatch signal. 18. Select 5.TRAPEZ with the function UP / DOWN(▲/▼) key. 19. Set the initial setting value of 5.TRAPEZ with the function LEFT / RIGHT(◀/▶) key. 20. Adjust TRAPEZIUM and bring the vertical lines at the right and left edges of the screen parallel. 21. Press the MENU / OK key and memorize the set value.
Adjustment of CORNER	**Signal generator** **Remote control unit** 		**7.COR-PIN** **8.COR-UP** **9.COR-LO**	22. Select 9.COR-LO with the FUNCTION UP / DOWN(▲/▼) key. 23. Set the initial setting value of 9.COR-LO with the function LEFT / RIGHT(◀/▶) key. 24. Adjust CORNER-LOW, and bring the straight line at the low corner. 25. Select 8.CORNER-UP with the function UP / DOWN(▲/▼) key. 26. Set the initial setting value of 8.COR-UP with the function LEFT / RIGHT(◀/▶) key. 27. Adjust CORNER-UP, and bring the straight line at the upper corner. 28. If the extreme upper & lower corners and a little pin or barrel, chose 7.COR-PIN and adjust. And adjust to get the straight. 29. Press the MENU / OK key and store the set value.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of ANGLE	**Signal generator** **Remote control unit**		**10.ANGLE**	● In case where there is a parallelogrammical distortion of images on the screen. (Fig. A) 30. Select 10.ANGLE with the FUNCTION UP / DOWN(▲/▼) key. 31. Adjust ANGLE, and bring the vertical lines straight. 32. Press the MENU key and memorize the set value.
Adjustment of BOW	**Signal generator** **Remote control unit**		**11.BOW**	● In case where there is a bow-shaped distortion of images on the screen. (Fig.B) 33. Select 11.BOW with the function UP / DOWN(▲/▼) key. 34. Adjust BOW, and bring the vertical lines straight. 35. Press the MENU / OK key and memorize the set value.

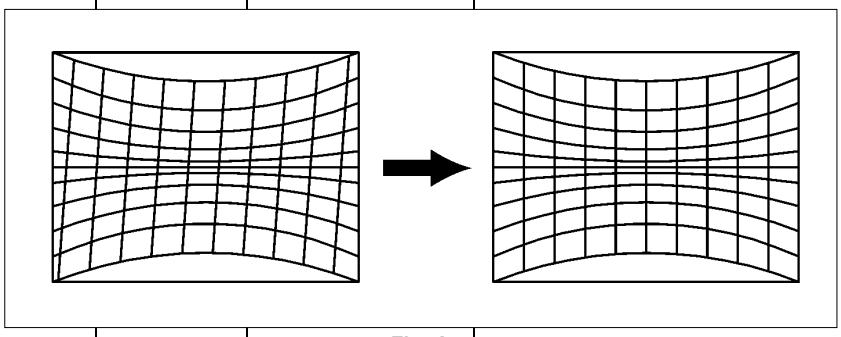


Fig. A

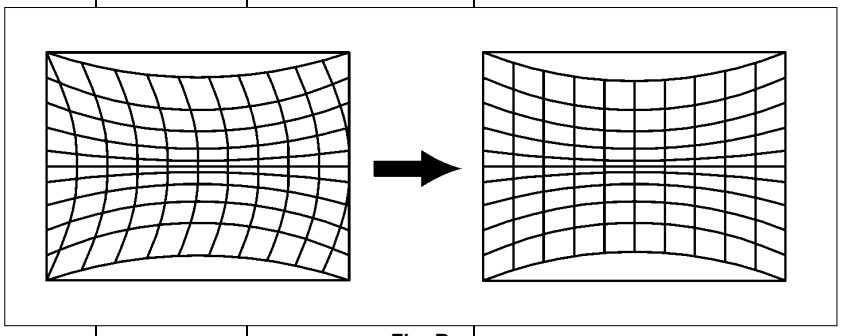
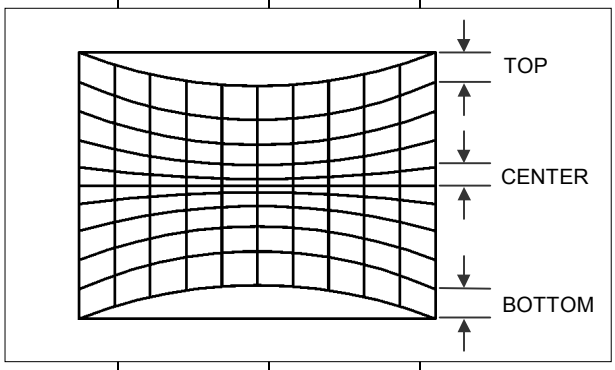


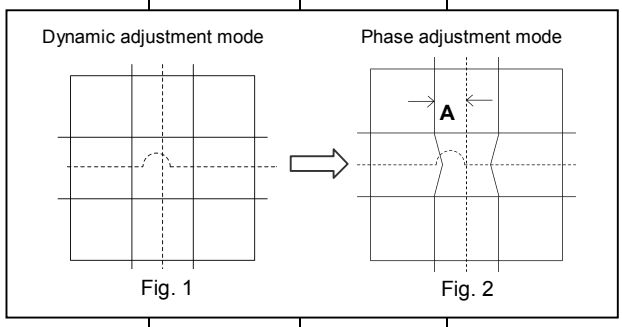
Fig. B

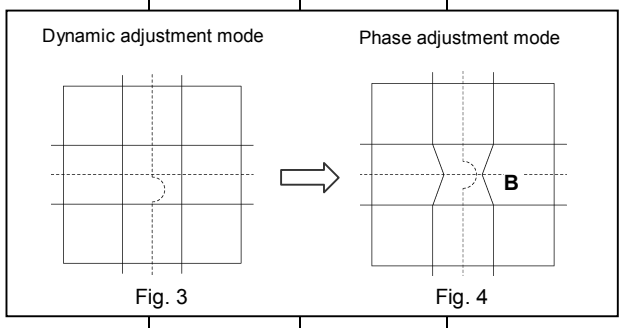
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-S SHAPE CORRECTION & V-LINEARITY	**Signal generator** **Remote control unit**		**12.V-S.CR** **13.V.LIN.**	● When the vertical linearity has been deteriorated remarkably, ● perform the following steps. 36. Receive a cross-hatch signal. 37. Select 13. V.LIN with the function UP / DOWN(▲/▼) key. 38. Set the initial setting value of 13. V.LIN with the function LEFT / RIGHT(◀/▶) key. 39. Select 12. V-S.CR. with the function UP / DOWN(▲/▼) key. 40. Set the initial setting value of 12. V-S.CR. with the function LEFT / RIGHT(◀/▶) key. 41. Adjust 13. V.LIN and 12. V-S.CR. so that the spaces of each line on top, center, and bottom become uniform. **NOTE** : Do not adjust “ZOOM” mode.

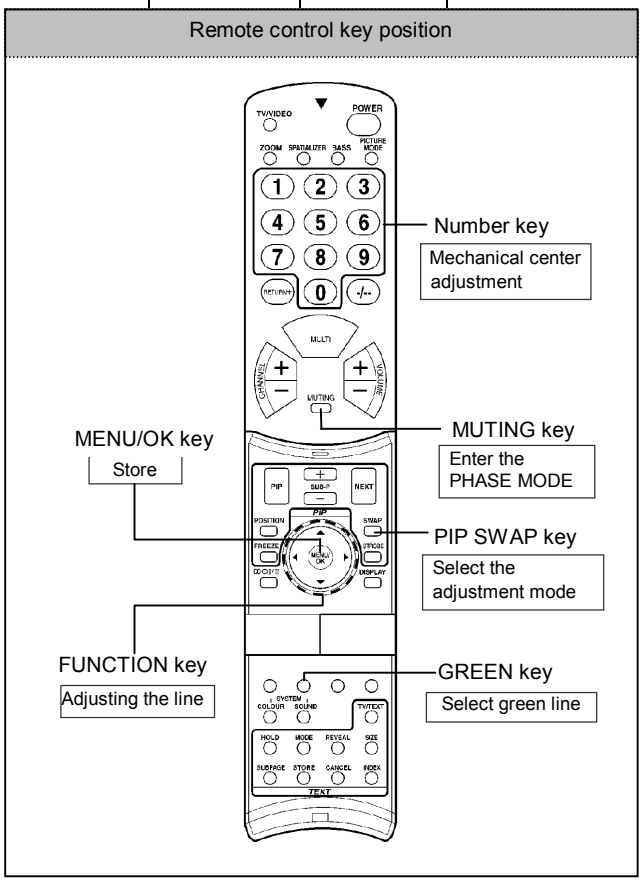


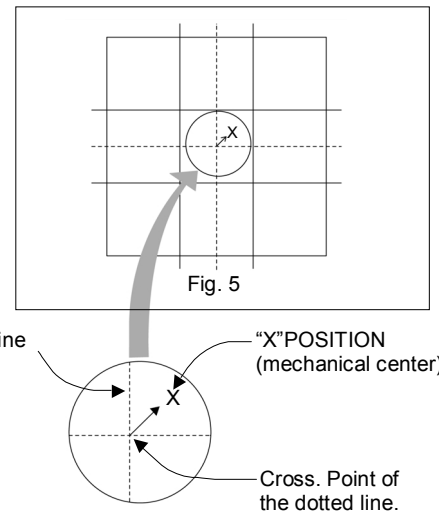
CONVERGENCE ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of CONVERGEN-CE PHASE	**Signal generator** **Remote control unit**		**SERVICE SW (S801) [CONVERGENCE PWB]**	1. Receive a PAL crosshatch signal. 2. Press the SERVICE SWITCH **S801** on the CONVERGENCE PWB. 3. Press the GREEN key on the remote control unit to select the green line. 4. Using the function UP(▲) key, intentionally expand the blinking horizontal green line as shown in the **Fig. 1**. 5. Press the PIP SWAP key on the remote control unit to enter the phase adjustment mode. 6. Using the function LEFT/RIGHT (◀/▶) key, adjust the screen so that the point "**A**" is located between the cross-point of the dotted line and the vertical line on the left side as shown in the **Fig. 2**. 7. Press the PIP SWAP key again to return to the dynamic adjustment mode. 8. Press the GREEN key on the remote control unit to select the green line. 9. Return the point "**A**", which was intentionally expanded, to its original position. 10. Using the function RIGHT(▶) key, intentionally expand the vertical line as shown in the **Fig. 3**. 11. Press the PIP SWAP key to enter the phase adjustment mode. 12. Using the function UP/DOUN(▲/▼) key, adjust the screen so that the peak of the point "**B**" meets with the adjacent dotted line. as shown in the **Fig. 4** 13. Press the PIP SWAP key again to return to the dynamic adjustment mode. 14. Press the GREEN key to select the vertical green line. Then, using the function LEFT(◀) key, return the point "**B**" , which was intentionally expanded, to its original position. 15. Press the PIP SWAP key again to enter the phase adjustment mode. 16. Using the 2,5,4,6 number key, adjust the screen so that the cross-point of the dotted line is positioned at the mechanical center on the screen. (**Fig. 5**)









Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of CONVERGEN-CE PHASE	**PHASE MODE SCREEN** **PHASE MODE** **PH-H:3H** **PH-V:05** **CR-H:4C** **CR-V:0B** Fig. 6			17. Press the PIP SWAP key , next press the MUTING key. 18. The screen changes to the PHASE MODE as shown **Fig. 6**. 19. It confirms that the value agrees with the table below. 20. Press the PIP SWAP key again to return to the dynamic adjustment mode, then press the MENU / OK key. 21. Receive a NTSC signal and carry out the adjustments in the same manner as for the steps-1 to step-20 above.

Signal / PHASE MODE	PAL	NTSC
PH-H	3F	3F
PH-V	08	08
CR-H	4C	4C
CR-V	08	01

PHASE MODE setting value

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of OVERALL CONVER GENCE	**Signal Generator** **Remote Control unit**		**SERVICE SW (S801) [CONVERGENCE PWB]**	● After competing the raster center and beam spot adjustments, the focusing of the focus lens should be completed. [PAL] 1. Receive a PAL cross-hatch signal. 2. Press the SERVICE SW **S801** on the CONVERGENCE PWB, then flash the cross hatch pattern. 3. Adjust the position on the screen as shown in Fig.1. 4. When the adjustment has been completed, press the MENU OK key and store the data on the memory. 5. Press the SERVICE SW **S801** again. [NTSC] 1. Receive a NTSC signal. 2. Press the SERVICE SW **S801** on the CONVERGENCE PWB. 3. Adjust the position on the screen as shown in Fig.2. 4. When the adjustment has been completed, press the MENU OK key and store the data on the memory. 5. Press the SERVICE SW **S801** again. **NOTE** The adjustment points(adjustment values) that are indicated in the Fig.1/Fig.2 are design values. During the field service, adjust the adjustment points down to the millimeter. (Note that the adjustment points are only adjustable down to the millimeter.) Moreover, make sure that the horizontal and vertical lines are straight by the visual observation. If the horizontal and visual lines are out of alignment, carry out necessary adjustments again.

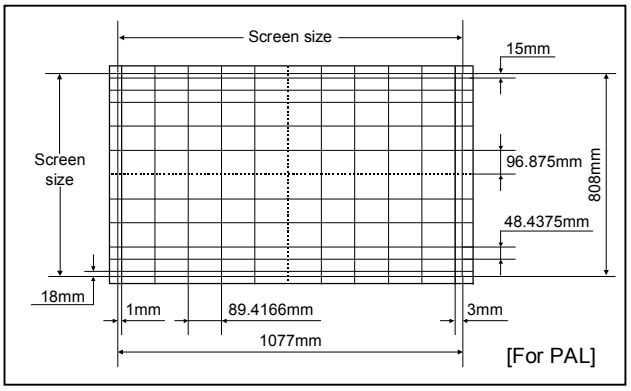


Fig.1

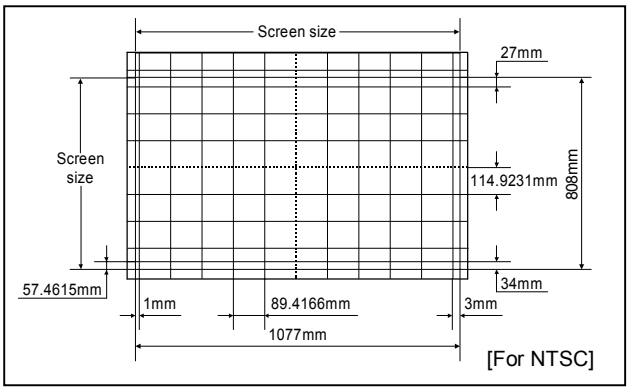


Fig.2

■VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of VSM PRESET	**Remote control unit**		**1.CONT.** **2. BRIGHT** **3. SHARP** **4. COLOUR** **5. TINT**	1. Select 5.VSM PRESET from the SERVICE MENU. 2. Select STD with the PICTURE MODE key of the remote control unit. 3. Adjust the function UP / DOWN(▲/▼) and LEFT / RIGHT (◀/▶) key to bring the set values of 1.CONT ～ 5. TINT to the values shown in the table. 4. Press the MENU / OK key and memorize the set value. 5. Respectively select the VSM PRESET mode for REGULAR and BRIGHT, and make similar adjustment as in 3 above. 6. Press the MENU / OK key and memorize the set value. ＊ Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.

VSM preset mode / Setting item	BRIGHT	STANDARD	SOFT
1. CONT.	+16	+2	-2
2. BRIGHT	0	0	0
3. SHARP	-5	-5	-7
4. COLOUR	+3	0	-2
5. TINT	0	0	0

SETTING VALUES OF VSM PRESET

■WHITE BALANCE PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of WB PRESET (HIGH LIGHT)	**Remote control unit**		**1. WDR R** **2. WDR G** **3. WDR B**	1. Select 8.WB PRESET from the SERVICE MENU. 2. Select COOL mode with the MENU / OK of the remote control unit. 3. Adjust the function UP / DOWN(▲/▼) and LEFT / RIGHT (◀/▶) key to bring the set values of 1. WDR R ～ 3. WDR B to the values shown in the table. 4. Press the MENU / OK key and memorize the set value. 5. Respectively select the WD PRESET mode for MID and WARM , and make similar adjustment as in 3 above. 6. Press the MENU / OK key and memorize the set value. ＊ Refer to OPERATING INSTRUCTIONS for the WHITE BALANCE in the PICTURE SETTING menu.

WB preset mode / Setting item	COOL	MID	WARM
1. WDR R	+3	0	+9
2. WDR G	0	0	0
3. WDR B	+9	0	+2

SETTING VALUES OF WHITE BALANCE

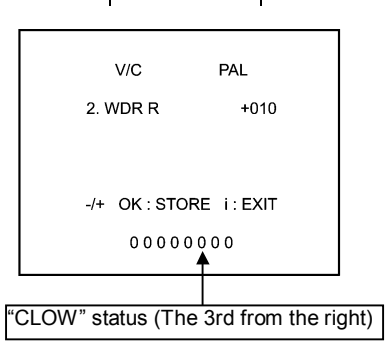
■VIDEO / CHROMA CIRCUIT ADJUSTMENT

The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values.
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

● marked ✻ :Do not adjust

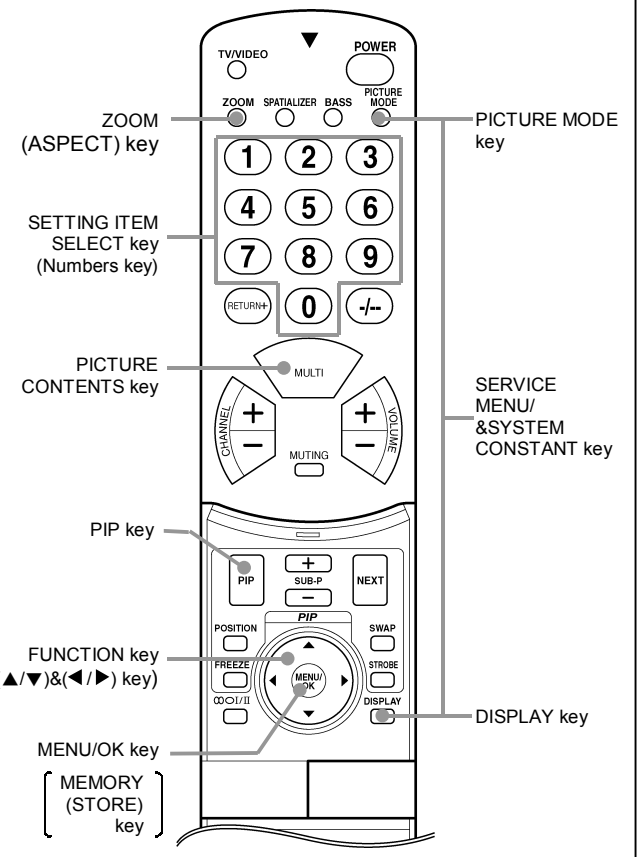
Setting item \ Colour system	Initial setting value			Setting item \ Colour system	Initial setting value		
	PAL	SECAM	NTSC		PAL	SECAM	NTSC
1.RGB BLK	—	—	—	7.COLOUR	000	000	000
2.WDR R	+010	←	←	8.TINT	—	—	000
3.WDR G	✻ +018	←	←	9.SHARP	✻ +007	←	←
4.WDR B	+010	←	←	10.VCO ADJUSTMENT	Automatically optimized after adjustment		
5.BRIGHT	+030	←	←	11.VID AGC	✻ 000	←	←
6.CONTRAST	-060	←	←	12.SYC SLI	✻ +007	←	←

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (Low-Light)	**Signal generator**		**R screen VR** **G screen VR** **B screen VR**	1. Receive a whole black signal. 2. By turning the screen VR for RED and BLUE, make a single coloured screen of GREEN. 3. By turning the screen VR for GREEN, adjust the screen so that the entire screen does not shine. 4. By turning the screen VR for RED and BLUE, adjust the white balance at low light.
Adjustment of WHITE BALANCE (High-Light)	**Signal generator** **Remote control unit**		**2.WDR R** **4.WDR B**	● Set the PICTURE MODE to MID. 1. Receive a black and white signal (colour off). 2. Select 2. V / C from the SERVICE MENU. 3. Modify 2. WDR R and 4.WDR B data to adjust the white balance (high light). 4. Make sure that “CLOW” status is “0”. 5. Press the MENU / OK key and memorize the set value. 6. If the “CLOW” status is shown as “1”, carry out the adjustment again from the ADJUSTMENT LOW LIGHT. 7. Change the contrast and brightness with the remote control up & down from low–light to high–light and check that the tracking of the white balance is good.
Adjustment of SUB BRIGHT	**Signal generator** **Remote control unit**		**5.BRIGHT**	1. Receive any broadcast. 2. Select 2.V / C from the SERVICE MENU. 3. Select 5.BRIGHT with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value with the function LEFT / RIGHT (◀/▶) key. 5. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. 6. Press the MENU / OK key and memorize the set value.

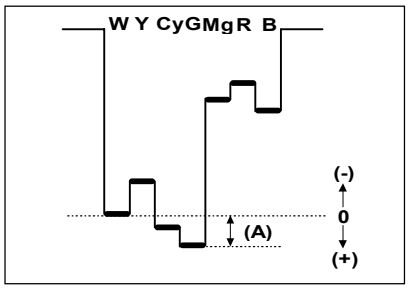


Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment Of SUB CONTRAST	**Signal generator** **Remote control unit**		**6.CONTRAST**	1. Receive any broadcast. 2. Select 2.V / C from the SERVICE MENU. 0. Select 6.CONTRAST with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value with the function LEFT / RIGHT (◀/▶)key. 5. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast. 6. Press the MENU / OK key and memorize the set value.
Adjustment of SUB COLOUR I	**Signal generator** **Remote control unit**		**7.COLOUR (PAL/SECAM/NTSC)**	**[Method of adjustment without measuring instrument]** (PAL COLOUR) 1. Receive PAL broadcast. 2. Select 2.V / C from the SERVICE MENU. 3. Select 7.COLOUR with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value for PAL COLOUR with the function LEFT / RIGHT(◀/▶) key. 5. If the colour is not the best with the initial set value, make fine adjustment until you get the best colour. 6. Press the MENU / OK key and memorize the set value. (SECAM COLOUR) 1. Receive a SECAM broadcast. 2. Make fine adjustment of SECAM COLOUR in the same manner as for above. (NTSC 3.58 COLOUR) 1. Receive a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal. 2. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above. (NTSC 4.43 COLOUR) 1. Receive a NTSC 4.43MHz COMPOSITE VIDEO signal from the EXT terminal. 2. Make similar fine adjustment of 4.43 COLOUR in the same manner as for above.

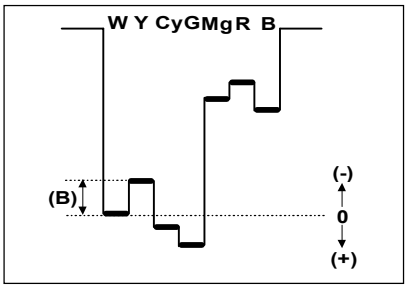
SERVICE MENU KEY



Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR Ⅱ	**Signal generator** **Oscilloscope** **Remote control unit**	**TP-47G TP-E(⏚) [CRT SOCKET PWB]**	**7.COLOUR (PAL/SECAM/NTSC)**	**[Method of adjustment using measuring instrument]**
			PAL COLOUR	(PAL COLOUR) 1. Receive a PAL full field colour bar signal (75% white). 2. Select 2.V / C from the SERVICE MENU. 3. Select 7.COLOUR with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value of PAL COLOUR with the function LEFT / RIGHT(◀/▶) key. 5. Connect the oscilloscope between TP-47G and TP-E 6. Adjust PAL COLOUR and bring the value of **(A)** in the illustration to **+10V** (W-G). 7. Press the MENU / OK key and memorize the setting value.
			SECAM COLOUR	(SECAM COLOUR) 1. Receive a SECAM full field colour bar signal (75% white). 2. Select 2.V / C from the SERVICE MENU. 0. Select 7.COLOUR with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value of SECAM COLOUR with the function LEFT / RIGHT(◀/▶) key. 5. Adjust SECAM COLOUR and bring the value of **(A)** of the illustration to **+6V**(W-G). 6. Press the MENU / OK key and memorize the setting value.
			NTSC COLOUR	(NTSC 3.58 COLOUR) 1. Receive a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V / C from the SERVICE MENU. 3. Select 7.COLOUR with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value of NTSC 3.58 COLOUR with the function LEFT / RIGHT(◀/▶) key. 5. Adjust NTSC 3.58 COLOUR and bring the value of **(A)** of the illustration to **+10V**(W-G). 6. Press the MENU / OK key and memorize the setting value.



Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB TINT Ⅰ	**Signal generator** **Remote control unit**		**8.TINT**	**[Method of adjustment without measuring instrument]** (NTSC 3.58 TINT) 1. Receive a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V / C from the SERVICE MENU. 3. Select 8.TINT with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value of NTSC 3.58 TINT with the function LEFT / RIGHT(◀/▶) key. 5. If you cannot get the best TINT with the initial setting value, make fine adjustment until you get the best TINT. 6. Press the MENU / OK key and memorize the set value. (NTSC 4.43 TINT) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB TINT Ⅱ	**Signal generator** **Oscilloscope** **Remote control unit**	**TP-47G TP-E(⏚) [CRT SOCKET PWB]**	**8.TINT**	**[Method of adjustment using measuring instrument]** (NTSC 3.58 TINT) 1. Receive a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V / C from the SERVICE MENU. 0. Select 8.TINT with the function UP / DOWN(▲/▼) key. 4. Set the initial setting value of NTSC 3.58 TINT with the function LEFT / RIGHT(◀/▶) key. 5. Connect the oscilloscope between TP-47G and TP-E 6. Adjust NTSC 3.58 TINT to bring the value of **(B)** in the illustration to **+3V** (W) and (W-Y). 7. Press the MENU / OK key and memorize the setting value (NTSC 4.43 TINT) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
VCO Adjustment for COLOUR DECODER	**Signal generator** **Remote control unit**		**10. VCO**	1. Receive a PAL full field colour bar signal (75% white) from EXT terminal. 2. Select 2. V / C from the SERVICE MENU. 0. Then Select 10. VCO adjustment with the function UP / DOWN (▲/▼) key. 4. Press the MENU / OK key. ∗ When the MENU / OK key is pressed, VCO for colour decoder will be automatically set at the respective values.



■PIP COLOUR DECODER VCO SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
VCO Adjustment for PIP COLOUR DECODER	**Signal generator** **Remote control unit**		**1.PIP VCO ADJ.**	1. Receive a colour bar signal. 2. Select 7.PIP from the service mode. 3. Select 1.PIP VCO ADJ with the function UP / DOWN(▲/▼) key. 4. Press the MENU / OK key. ∗ When the MENU / OK key is pressed, VCO for colour decoder will be automatically set at the respective values. ● Do not touch **2. P VID ADJ. 3. P SNC SLI.** in 7. PIP adjustment of the SERVICE MENU as it requires no adjustment. If values had changed for the some reason, set the initial values in the following table.

Setting item	Variable range	fixed value
1. PIP VCO ADJ	Automatically given	
2. PIP VID ADJ	0000～0001	0000
3. PIP SNC SLI	-128～+127	+007

■AUDIO CIRCUIT ADJUSTMENT

● Do not touch **3. AUDIO** adjustment of the SERVICE MENU as it requires no adjustment.
If values had changed for the some reason, set the initial values in the following table.

3. AUDIO (Do not adjust)

Setting item	Variable range	fixed value
1. ERR LIMIT	00H～FFH	10H
2. A2 ID THR	00H～FFH	14H
3. QUASI	00H～FFH	—

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HV-53PRO-K #999
HV-53PRO-AU #999

VP 0202
DP105861

JVC

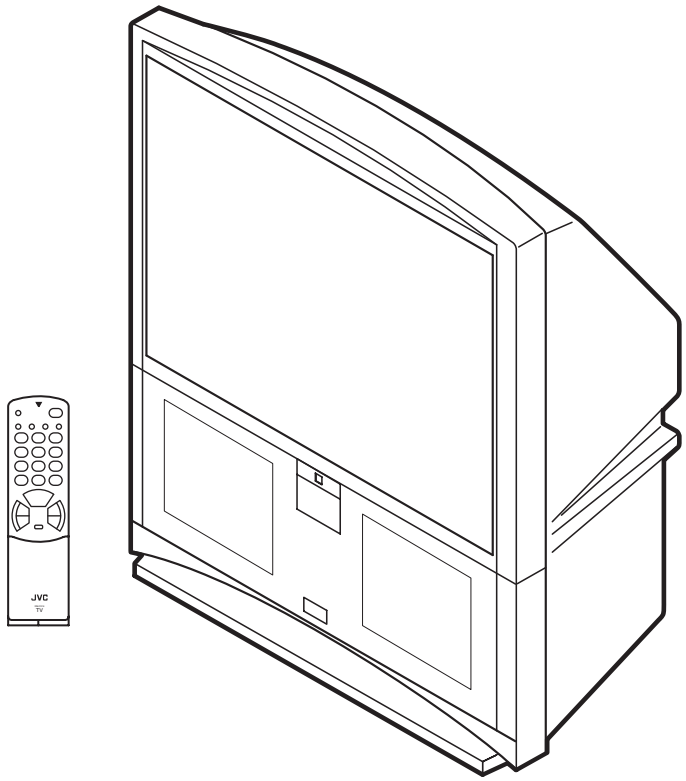
SCHEMATIC DIAGRAMS

REAR PROJECTION TELEVISION

HV-53PRO/K
HV-53PRO/AU

BASIC CHASSIS
MF

CD-ROM No.SML200202



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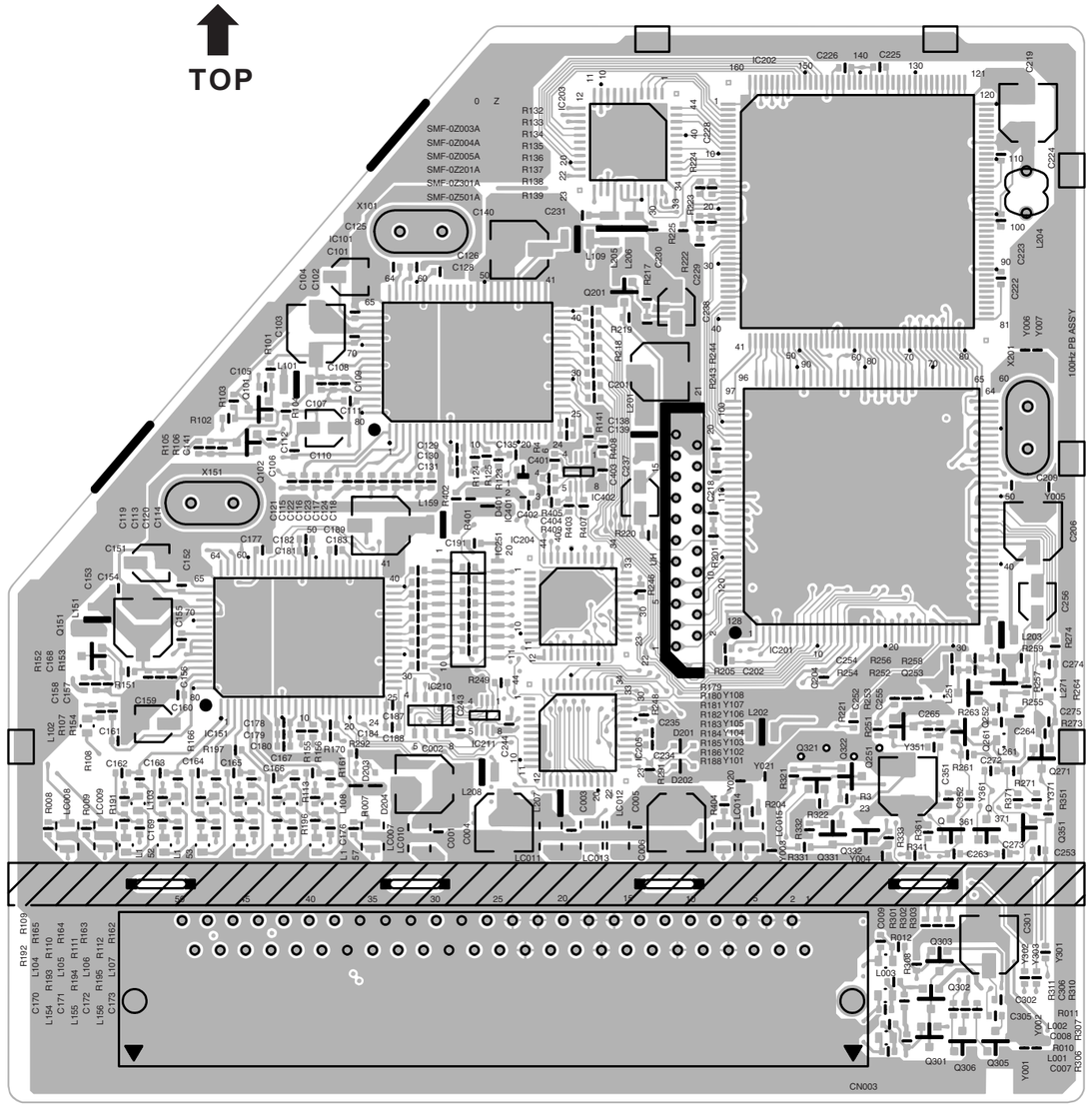
No.51984
Feb. 2002

100Hz PWB PATTERN

[PARTS SIDE]



HV-53PRO/K,HV-53PRO/AU STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal	: Colour bar signal
(2)Setting positions of each knob/button and variable resistor	: Original setting position when shipped
(3)Internal resistance of tester	:DC 20kΩ /V
(4)Oscilloscope sweeping time	:H ⇒ 20μS/div :V ⇒ 5mS/div :Others ⇒ Sweeping time is specified
(5)Voltage values	:All DC voltage values

∗ Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board :R1209 → R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

No unit	:[Ω]
K	:[K Ω]
M	:[M Ω]

● Rated allowable power

No indication	:1/ 16 [W]
Others	:As specified

● Type

No indication	:Carbon resistor
OMR	:Oxide metal film resistor
MFR	:Metal film resistor
MPR	:Metal plate resistor
UNFR	:Uninflammable resistor
FR	:Fusible resistor

∗ Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

● Capacitance value

1 or higher	:[pF]
less than 1	:[μF]

● Withstand voltage

No indication	:DC50[V]
Others	:DC withstand voltage [V]
AC indicated	:AC withstand voltage [V]

∗ Electrolytic Capacitors

47/50[Example]:Capacitance value [μF]/withstand voltage[V]

● Type

No indication	:Ceramic capacitor
MM	:Metalized mylar capacitor
PP	:Polypropylene capacitor
MPP	:Metalized polypropylene capacitor
MF	:Metalized film capacitor
TF	:Thin film capacitor
BP	:Bipolar electrolytic capacitor
TAN	:Tantalum capacitor

(3)Coils

No unit	:[μH]
Others	:As specified

(4)Power Supply

:B1 :B2 (12V)

:9V :5V

∗ Respective voltage values are indicated

(5)Test point

:Test point :Only test point display

(6)Connecting method

:Connector :Wrapping or soldering

:Receptacle

(7)Ground symbol

:LIVE side ground

:ISOLATED(NEUTRAL) side ground

:EARTH ground

:DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) side GND.Therefore, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

◇ **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

NOTE

◇ **Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.**
When ordering parts, please use the numbers that appear in the Parts List.

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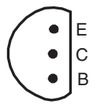
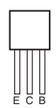
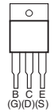
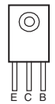
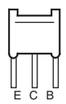
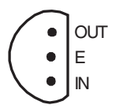
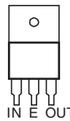
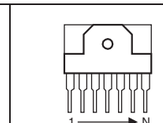
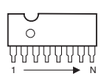
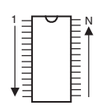
SEMICONDUCTOR SHAPES

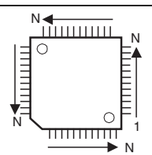
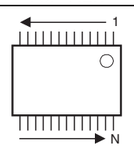
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR

IC

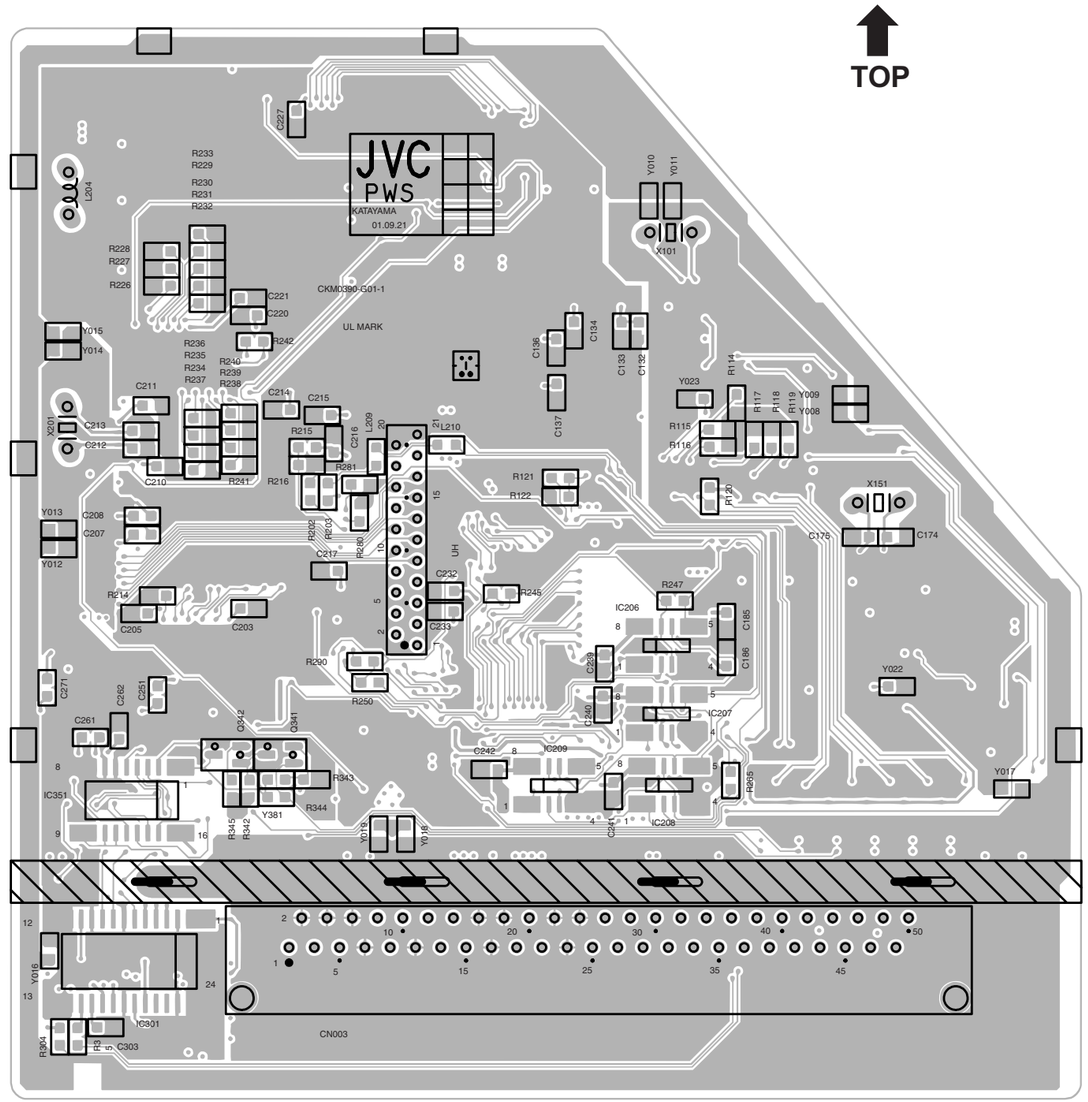
BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

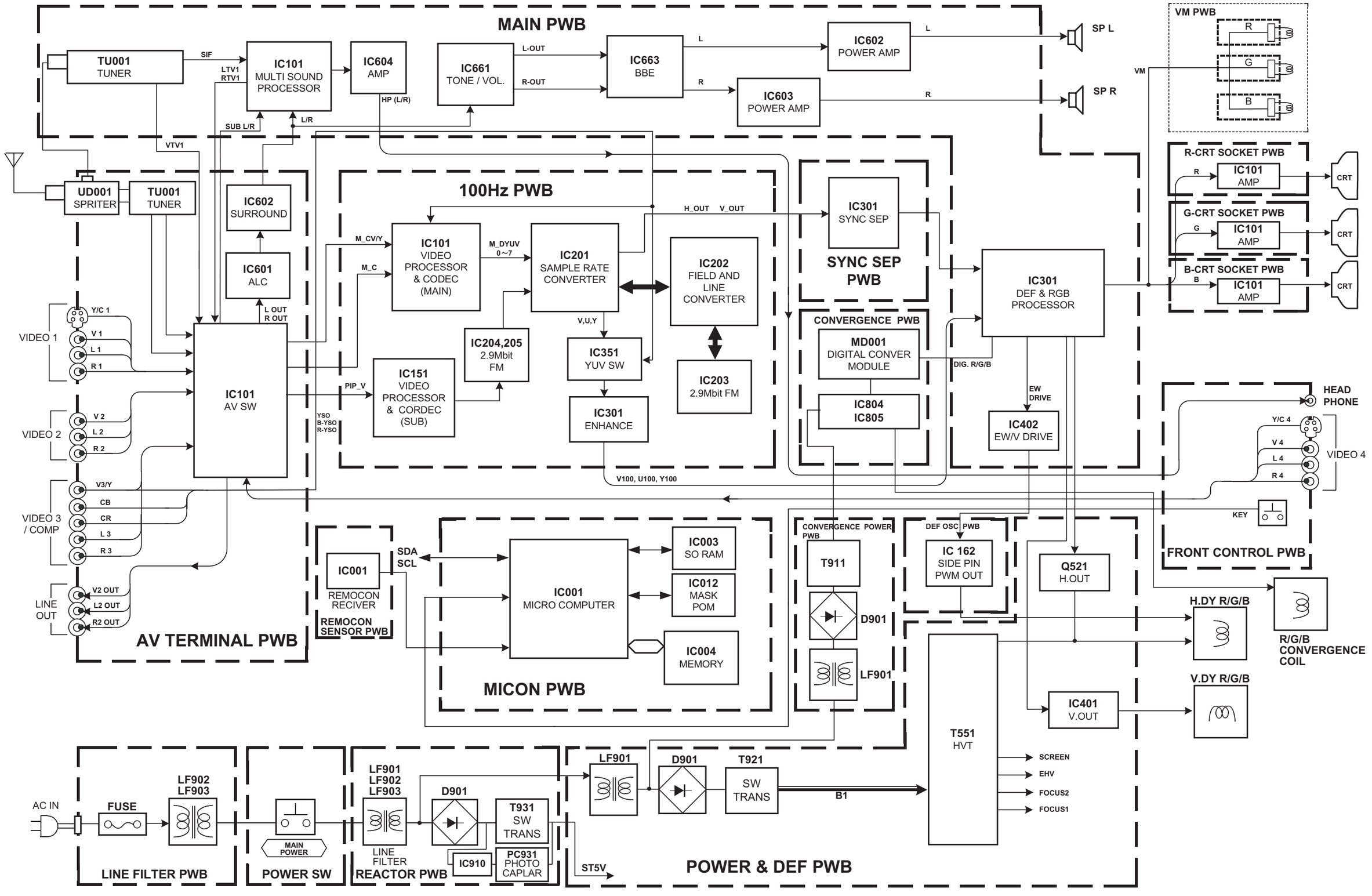
	TOP VIEW	
		

100Hz PWB PATTERN

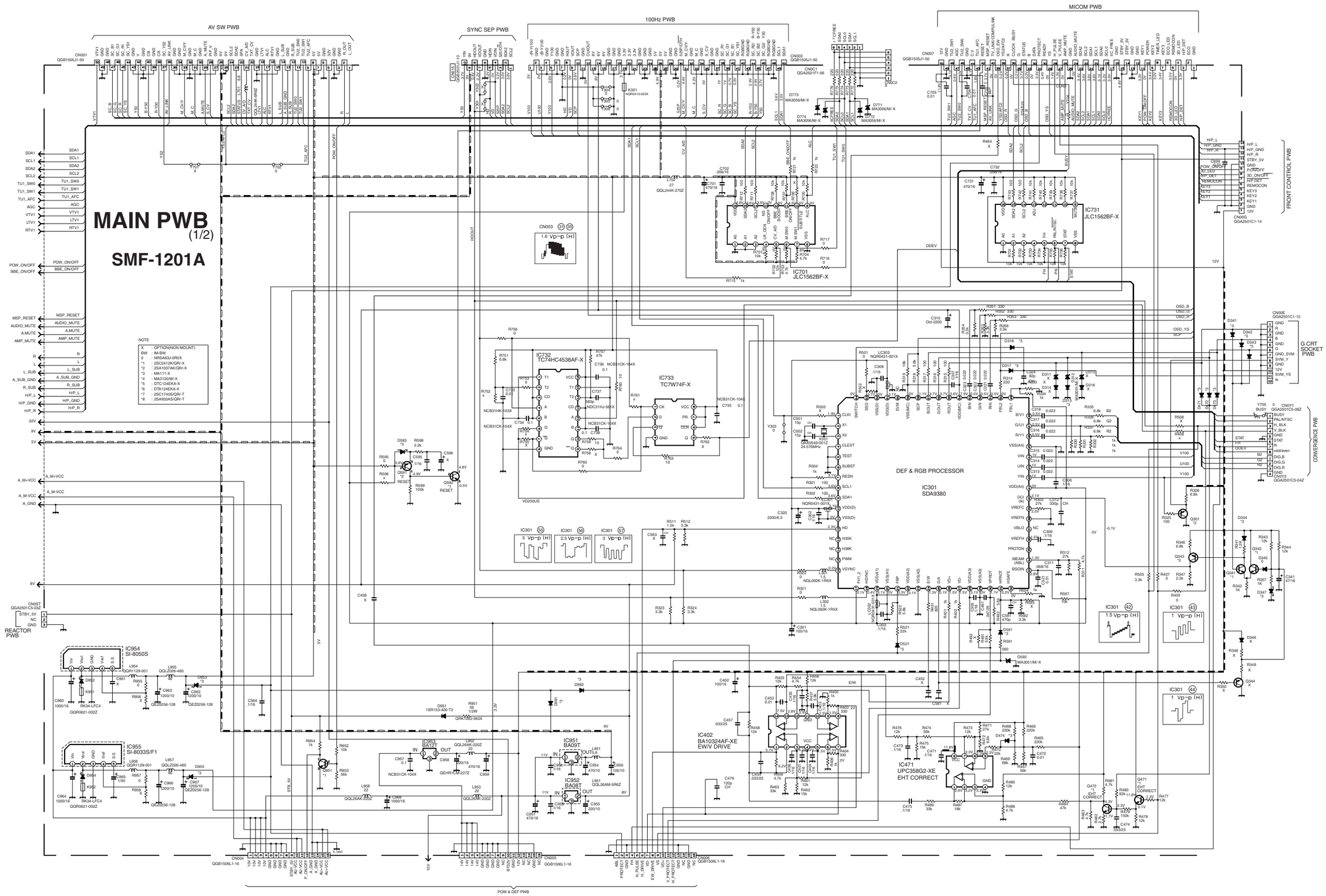
[SOLDER SIDE]



BLOCK DIAGRAM



CIRCUIT DIAGRAMS *MAIN PWB CIRCUIT DIAGRAM* [1/2]



MAIN PWB CIRCUIT DIAGRAM [2/2]

MAIN PWB
(2/2)
SMF-1201A

POWER & DEF. PWB CIRCUIT DIAGRAM [1/2]

*PARTS

	SMF-2201A
D403	X
R401	X
R402	2.2k
R404	X
R405	X
R406	X
R407	X
R408	X
R410	QRT029J -R82
R413	X
R415	X
R416	33k
R421	X
R422	100k
R423	5.6k
R424	2.2k
R425	5.6k
R426	QRT01EJ -1R0X
R427	10k
R428	4.7k
C402	X
C407	X
C412	X
C413	X
C414	0.47 TF
C415	0.47 TF
C409	X
C410	10/50
Y403	BW
D404	X
D408	1SS133 -T2
Y801	X
C803	QETM2EM -106
R522	QRE141J -563Y
C526	X
R512	QRL029J -331
R409	QRL02EJ -221X
Y589	X
C527	X
R531	QRL02EJ -102X

	SMF-2201A
R521	47k
R523	1.5k
R524	2.7k
R525	X
C508	QFP32JJ -123
C524	X
C534	QFM72DJ -152Z
C536	QFM72DK -472Z
C701	QFLC2AJ -123Z
Q581	*1
D581	*3
D582	*3
Y502	BW
Y581	X
Y582	BW
D583	X
Y584	X
Y586	BW
Y587	BW
D202	MTZJ3.9 B-T2
R204	2.7k
R205	1.8k
R206	1.8k
R201	X
R202	X
R203	X
CN00J	QGA2501 C5-03Z
R504	QRL039J -392
Q503	2SC5521
R561	QRA14CF -6801Y
R562	QRA14CF -2701Y
R563	X
D562	BW
Y585	X
D521	MTZJ22B -T2
Q521	X
Y588	BW
R973	QRE121J -392Y
R972	QRA14CF -5600Y

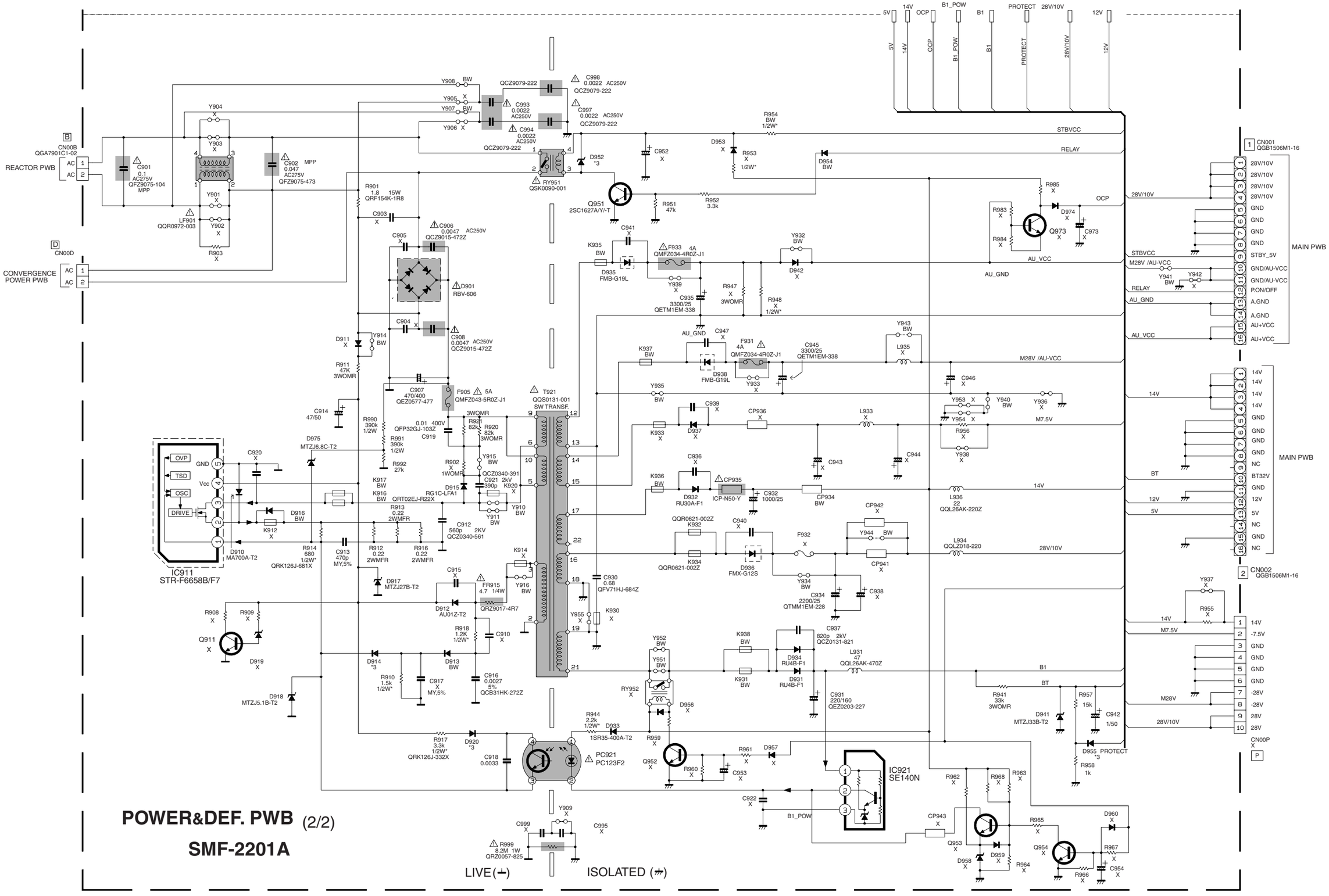
NOTE:

BW : BUS WIRE (0Ω)
QPT: NON MOUNT
* : DEFFENCE LIST
*1 : 2SC3311A/QR/-T
*2 : 2SA1309A/QR/-T
*3 : 1SS133-T2

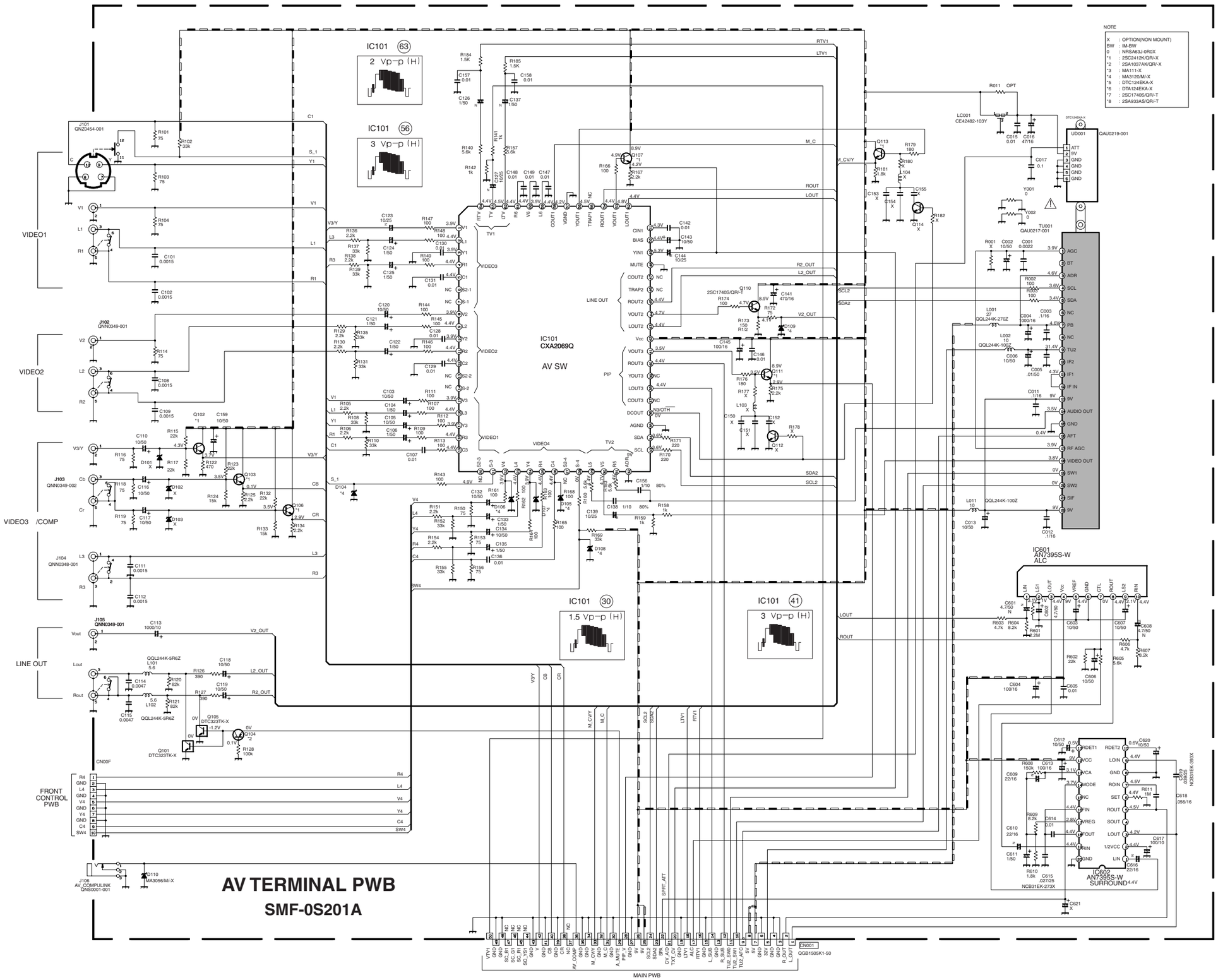
POWER&DEF. PWB (1/2)

SMF-2201A

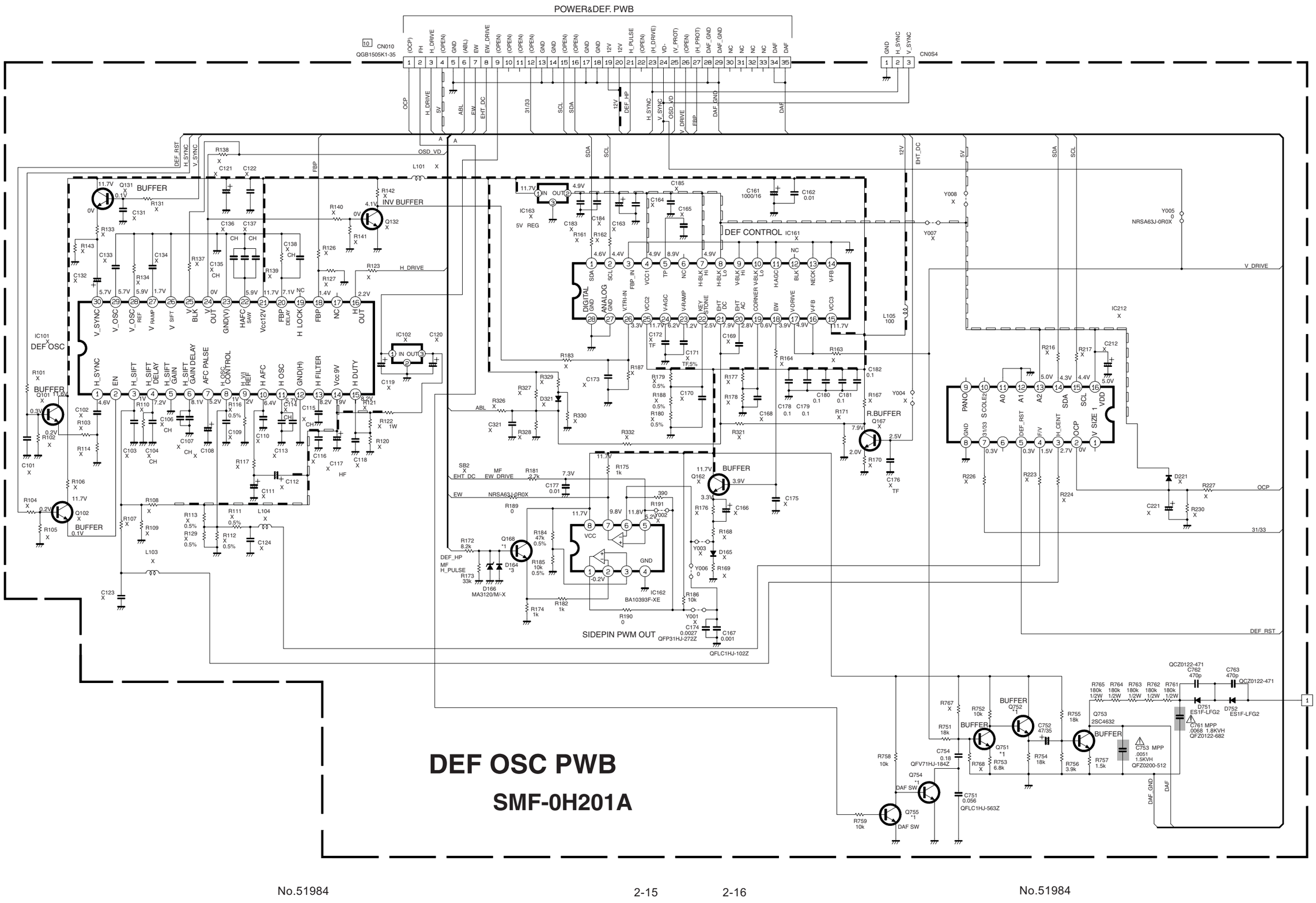
POWER & DEF. PWB CIRCUIT DIAGRAM [2/2]



AV TERMINAL PWB CIRCUIT DIAGRAM



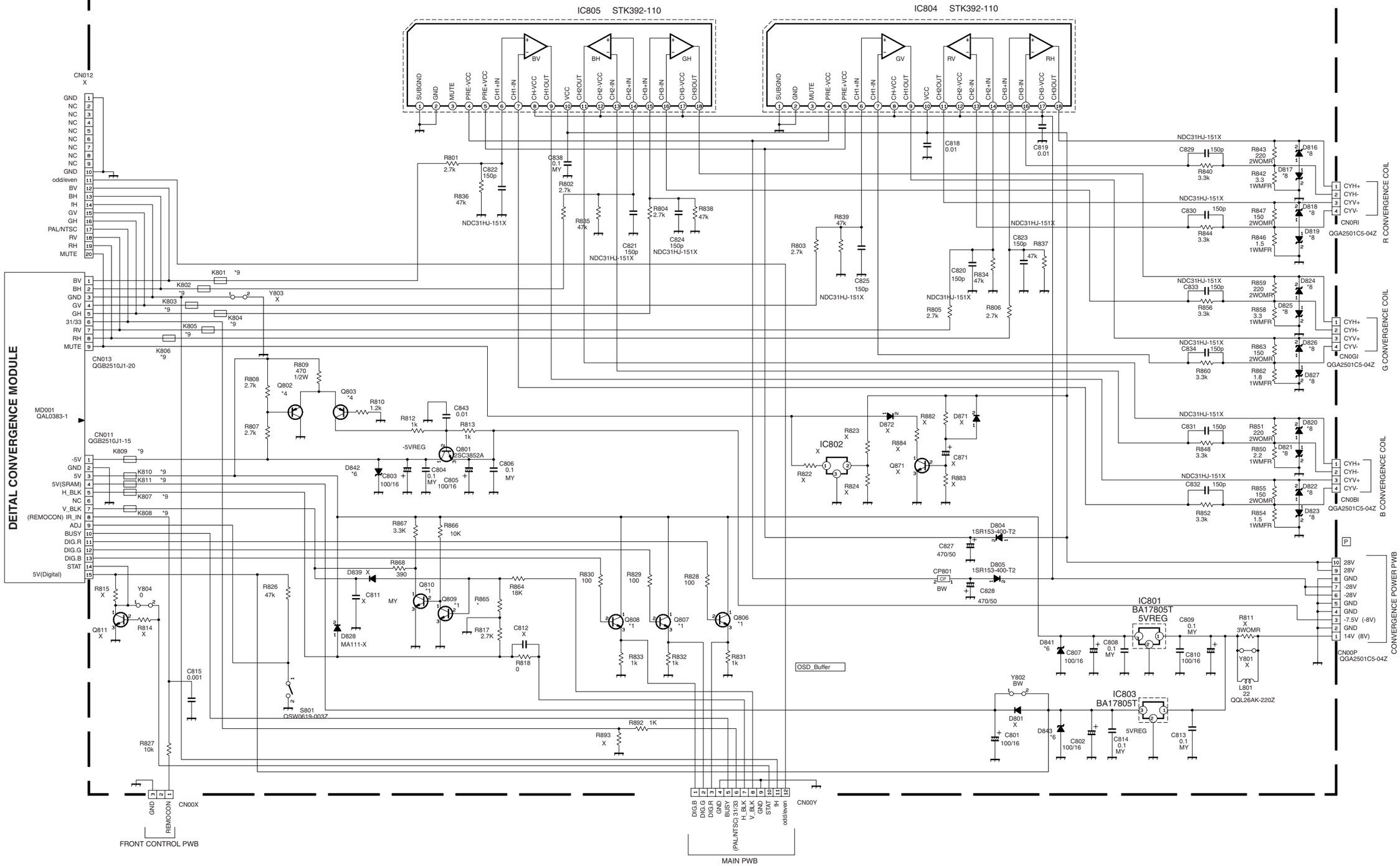
DEF OSC PWB CIRCUIT DIAGRAM



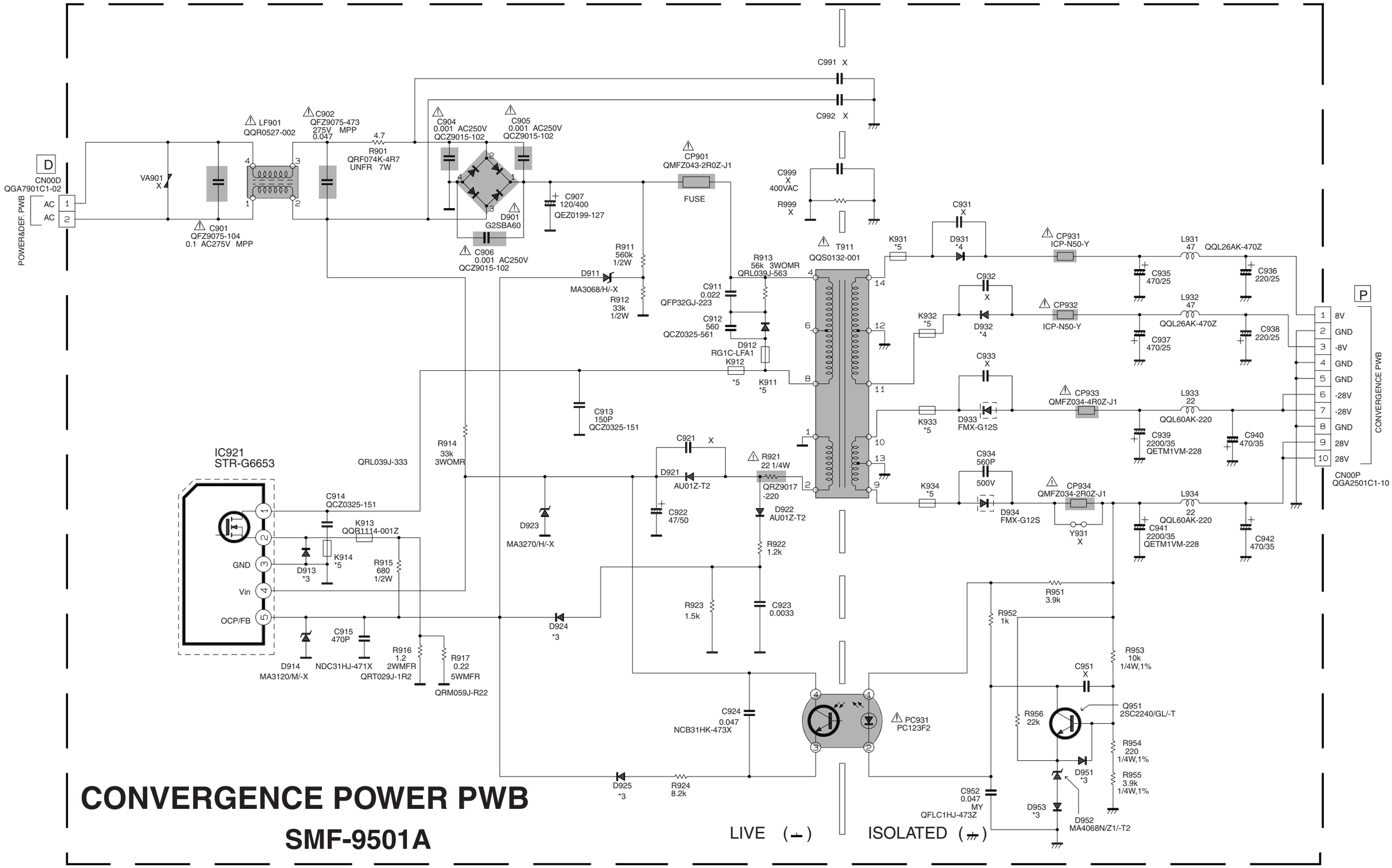
CONVERGENCE PWB CIRCUIT DIAGRAM

CONVERGENCE PWB

SMF-5201A



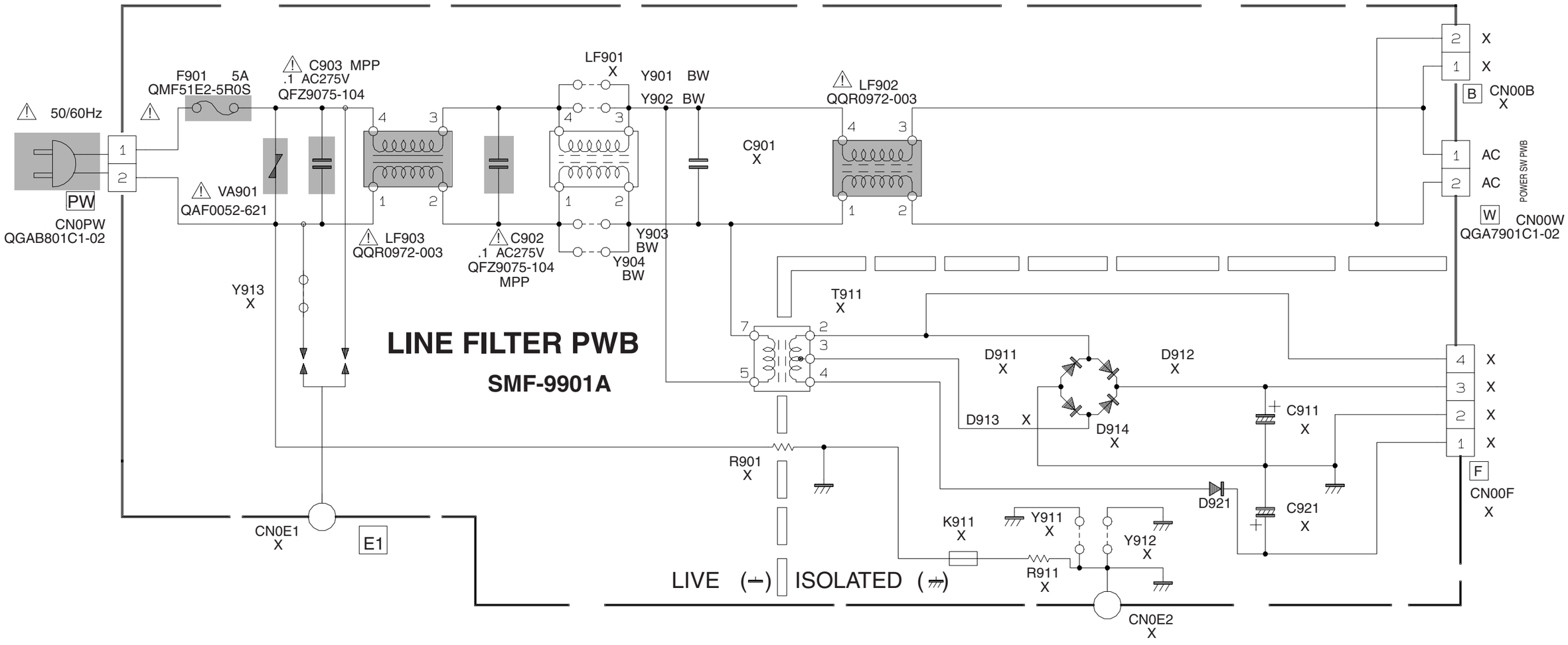
CONVERGENCE POWER PWB CIRCUIT DIAGRAM



CONVERGENCE POWER PWB

SMF-9501A

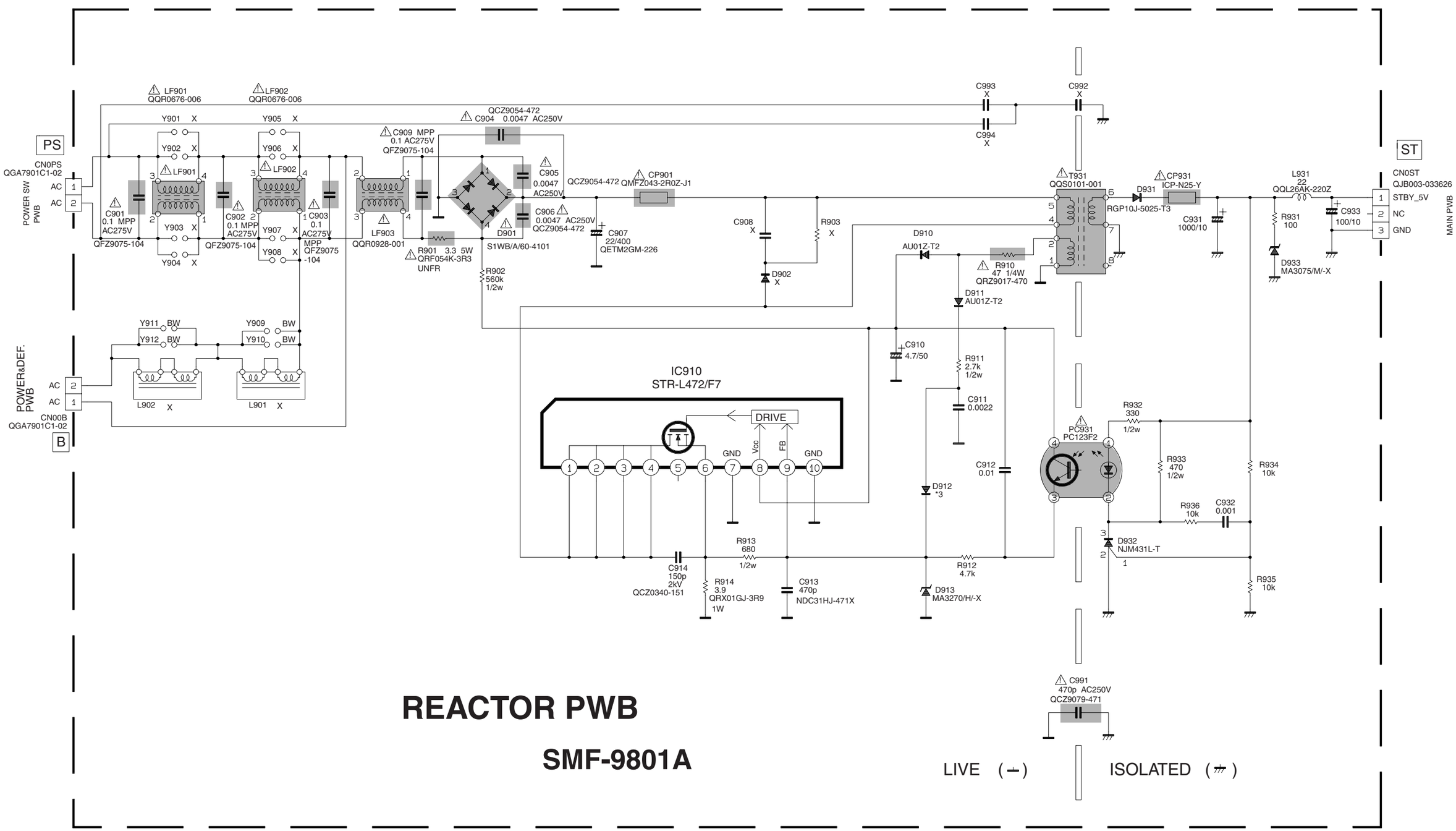
LINE FILTER PWB CIRCUIT DIAGRAM



LINE FILTER PWB

SMF-9901A

REACTOR PWB CIRCUIT DIAGRAM

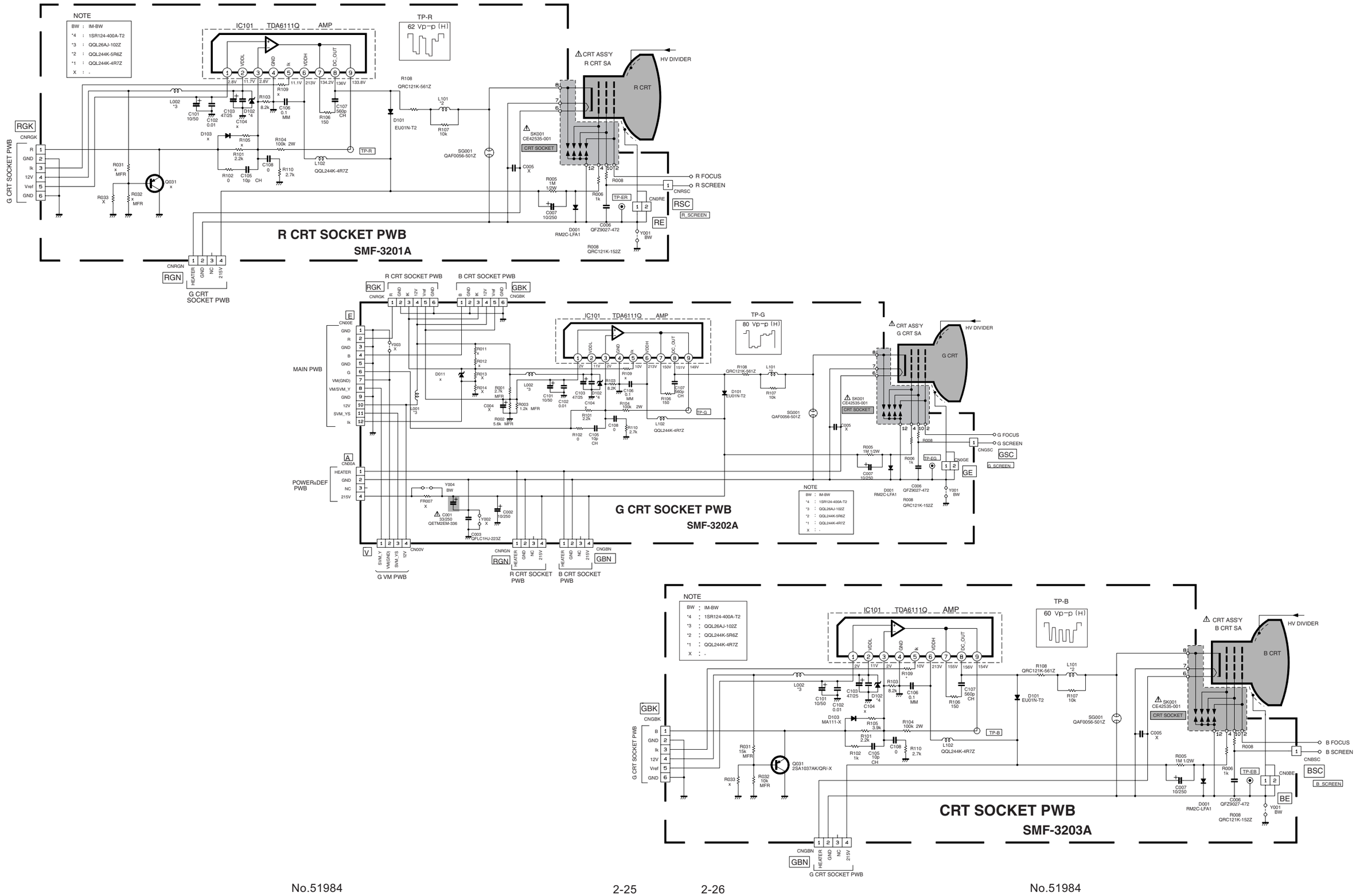


REACTOR PWB

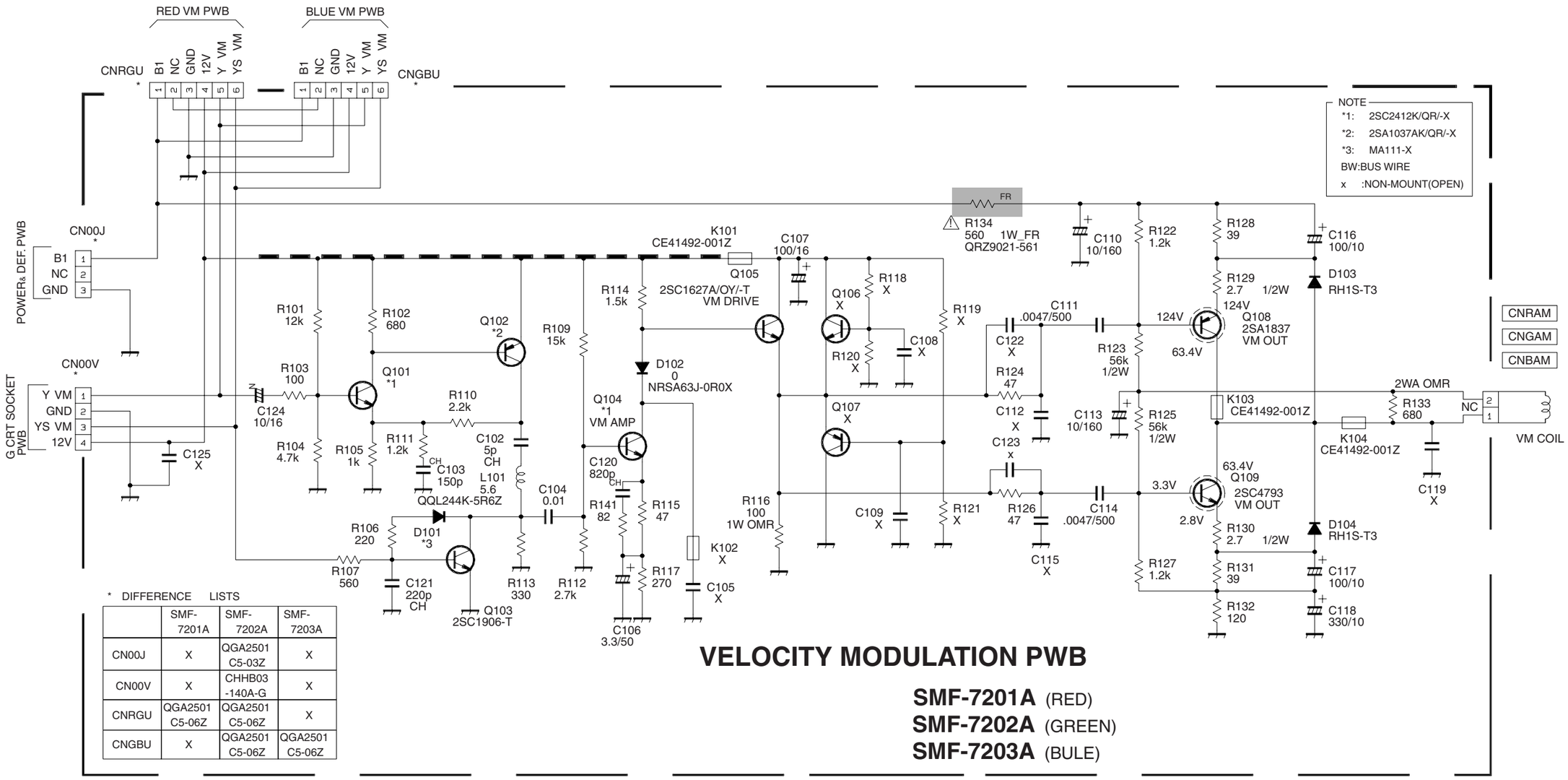
SMF-9801A

LIVE (⏤) ISOLATED (⏥)

R/G/B CRT SOCKET PWB CIRCUIT DIAGRAM



R/G/B VM PWB CIRCUIT DIAGRAM



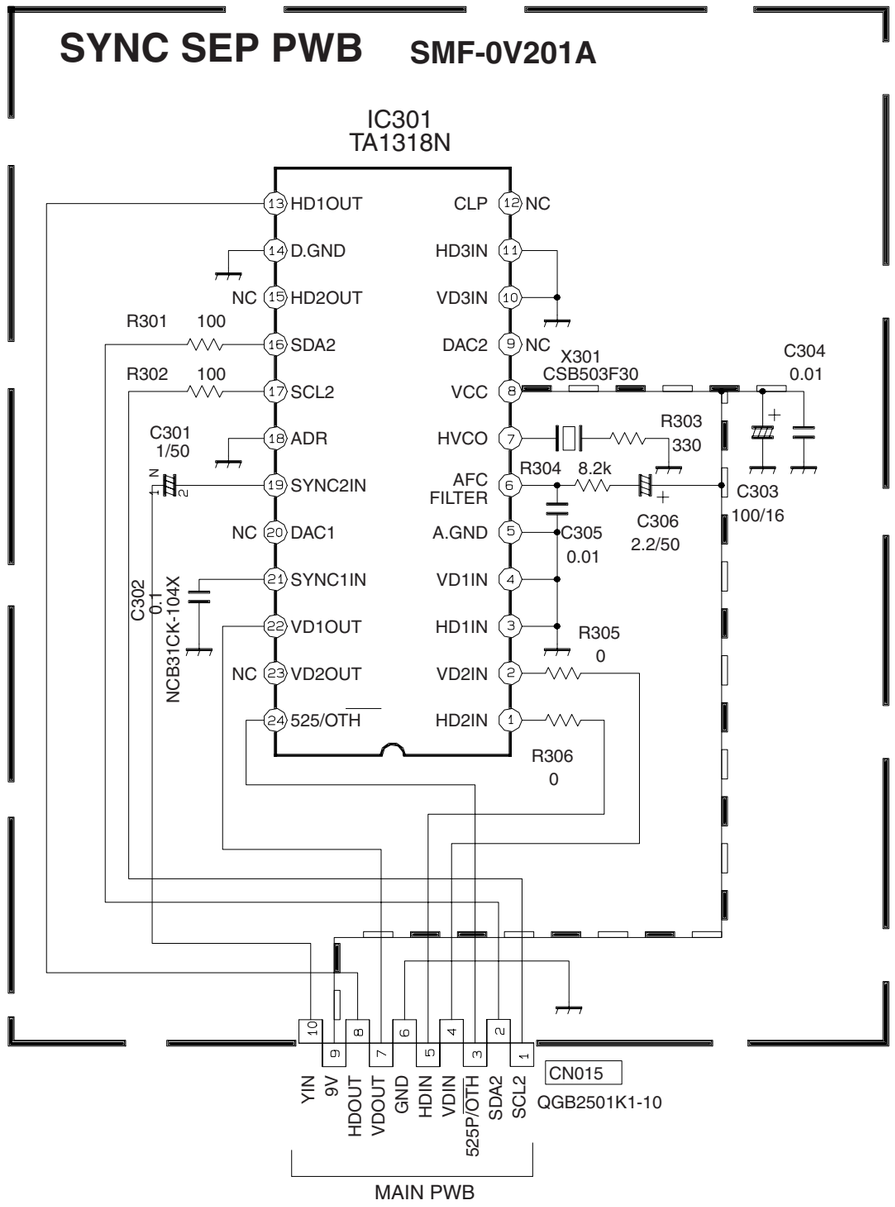
* DIFFERENCE LISTS

	SMF-7201A	SMF-7202A	SMF-7203A
CN00J	X	QGA2501 C5-03Z	X
CN00V	X	CHHB03 -140A-G	X
CNRGU	QGA2501 C5-06Z	QGA2501 C5-06Z	X
CNGBU	X	QGA2501 C5-06Z	QGA2501 C5-06Z

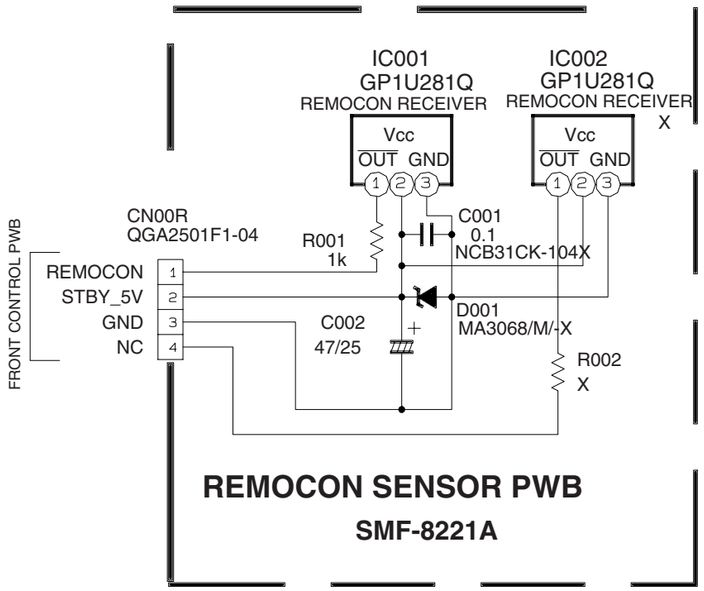
VELOCITY MODULATION PWB

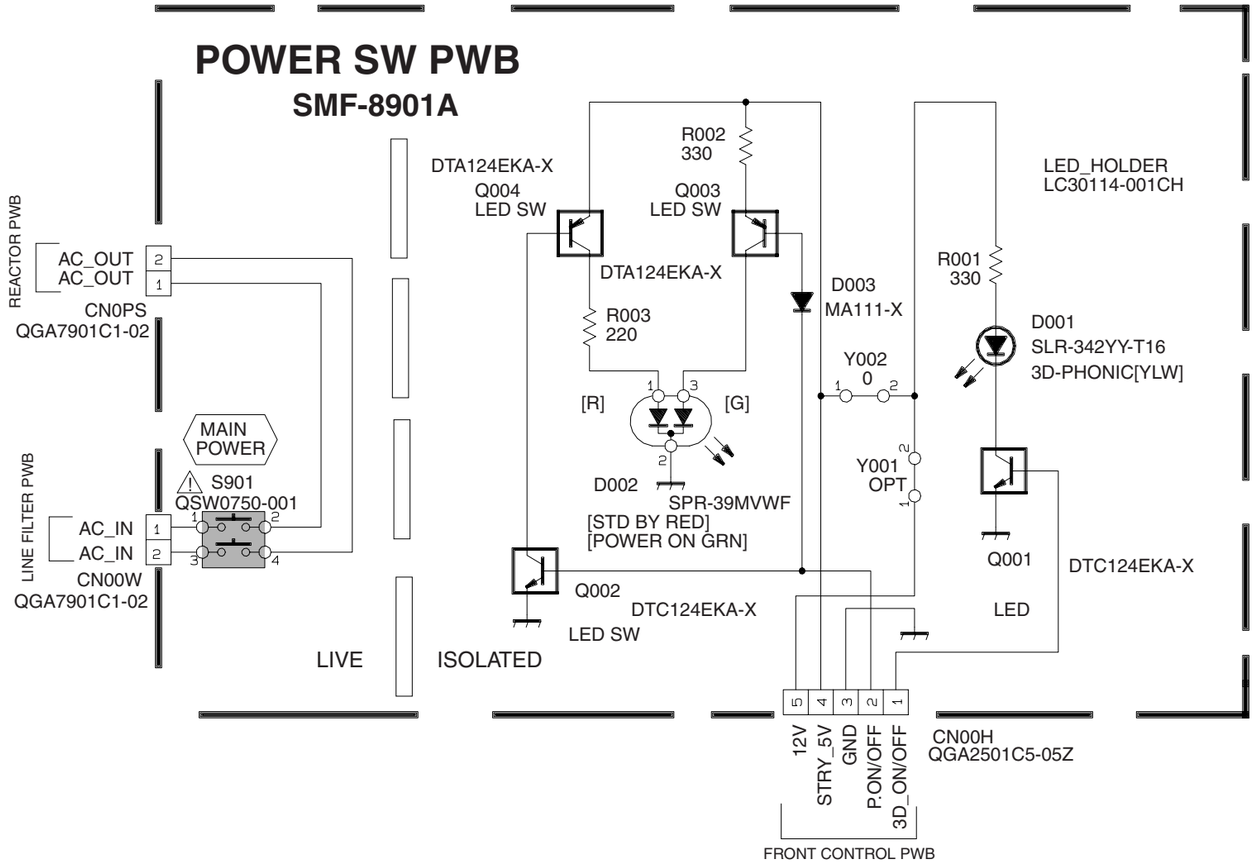
SMF-7201A (RED)
SMF-7202A (GREEN)
SMF-7203A (BULE)

SYNC SEP PWB CIRCUIT DIAGRAM



REMOCON SENSOR, POWER SW PWB CIRCUIT DIAGRAM

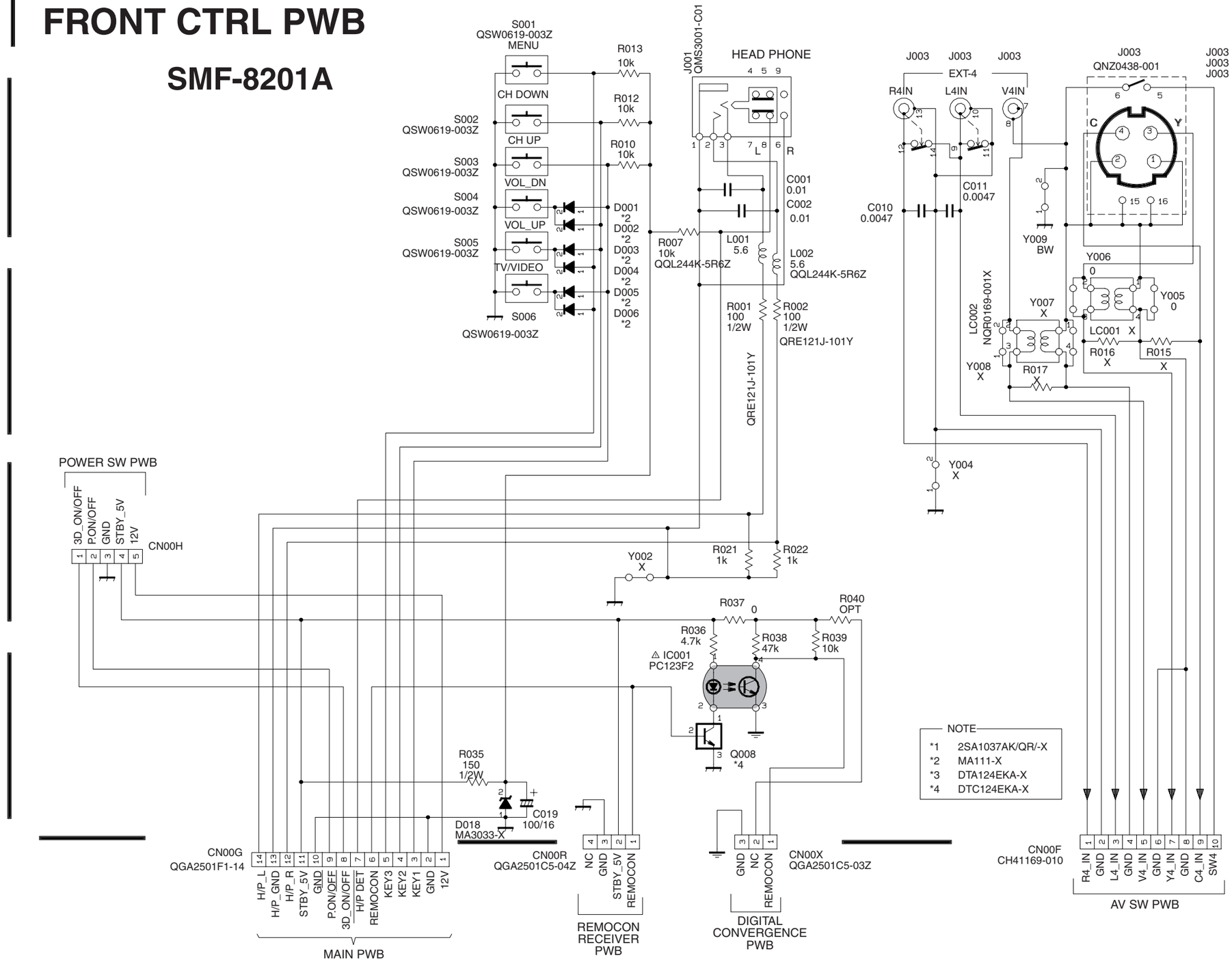




FRONT CONTROL PWB CIRCUIT DIAGRAM

FRONT CTRL PWB

SMF-8201A



MICOM PWB CIRCUIT DIAGRAM

NOTE
*1: 2SC2712/YG/-X
*2: 2SA1162/YG/-X
*3: MA111-X
*4: 2SK1374-X
*5: MA3056/M/-X

X: OPEN
0:00 CHIP BUS WIRE

MICOM PWB
SMF-0M201A

IC001 SDA6000 MICRO_COMPUTER

IC003 K4S641632E-TC75 64MB_SD-RAM

IC002 MR27V3202E 32MB_PPROM

IC004 AT24C32-53PRO MEMORY

IC005 S-80928ANNP-W RESET IC

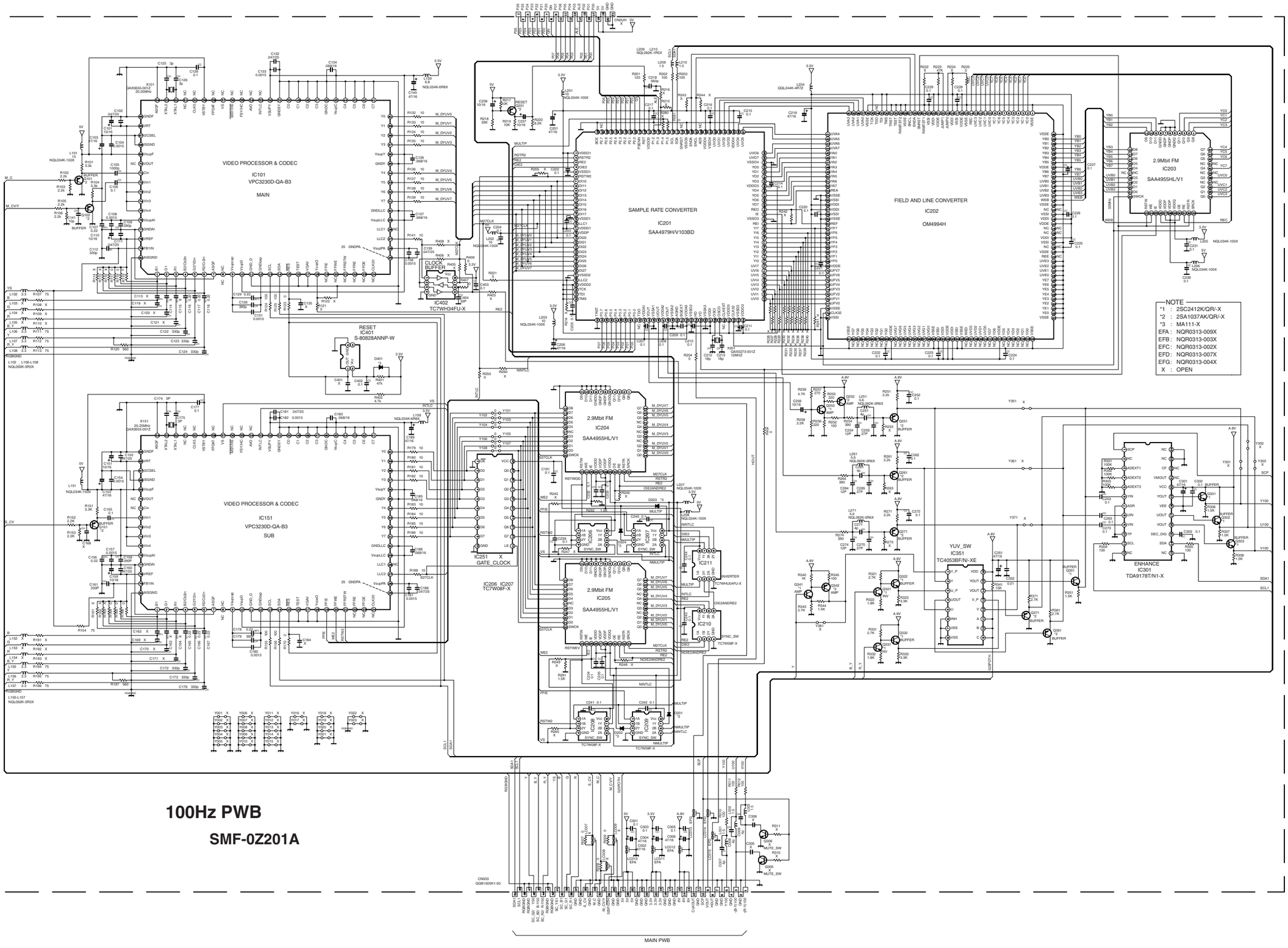
IC901 TA48M025F-X

IC902 TA48M033F-X

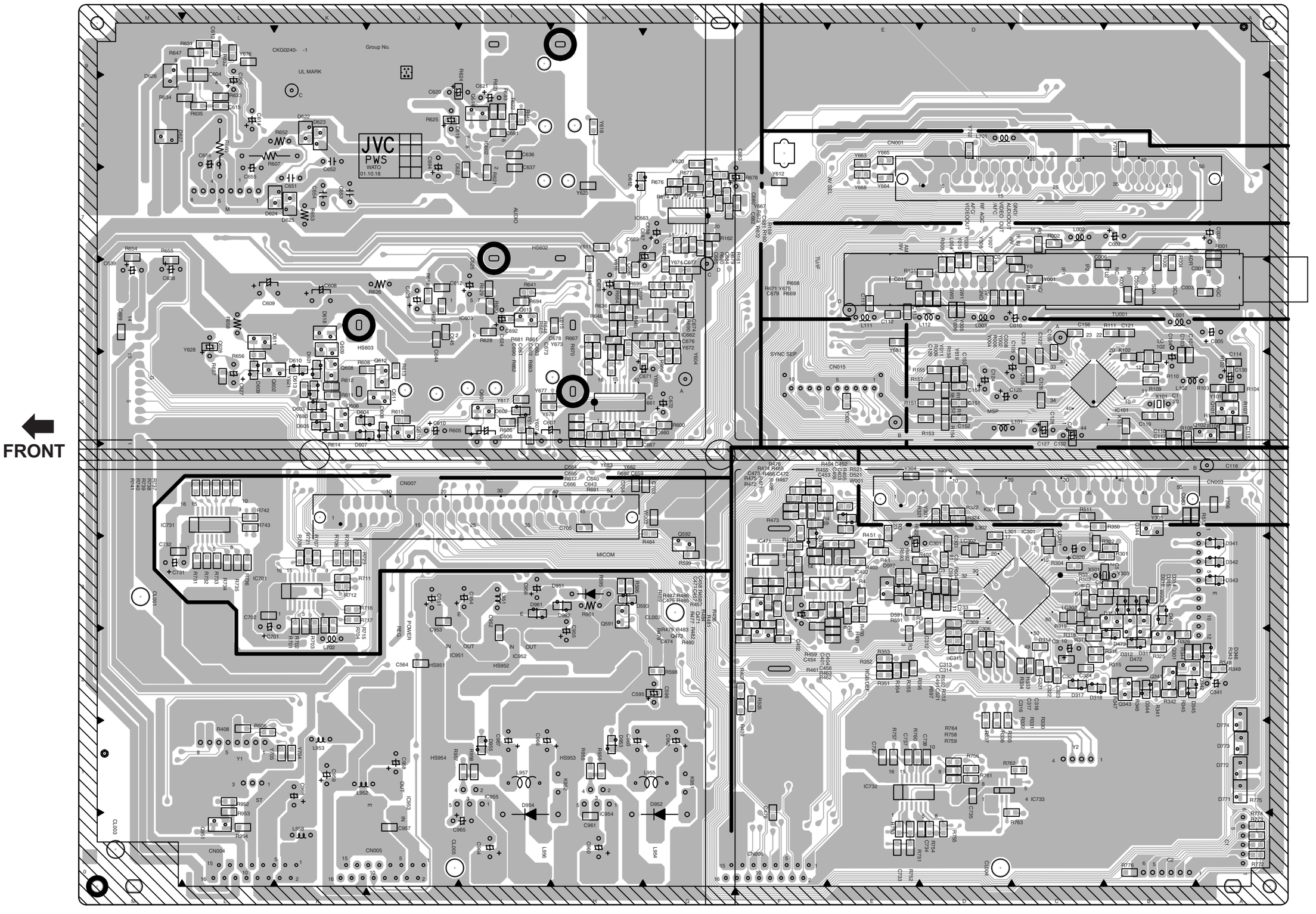
IC903 MM1437AF-X RESET&REG

MAIN PWB

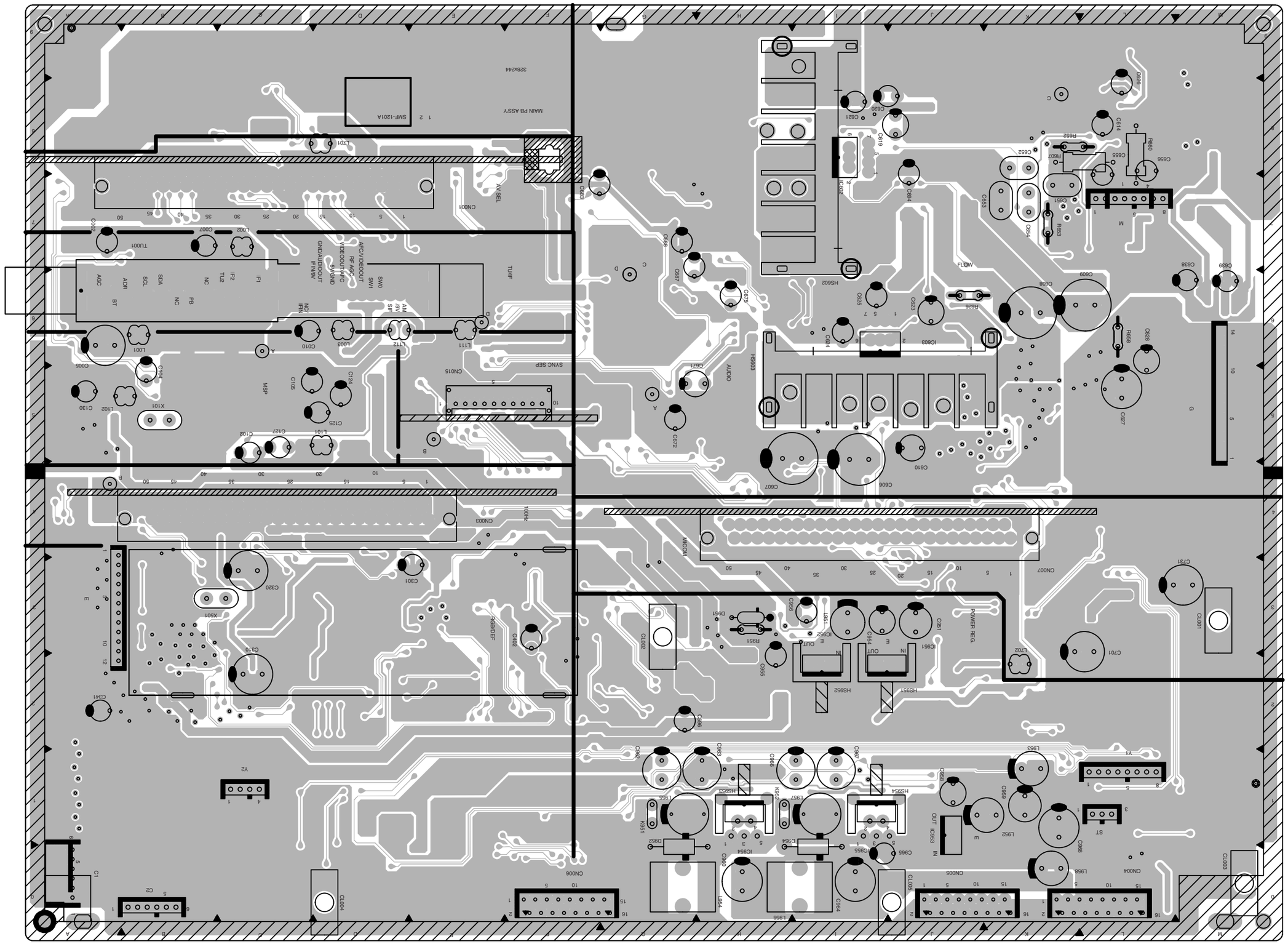
100Hz PWB CIRCUIT DIAGRAM



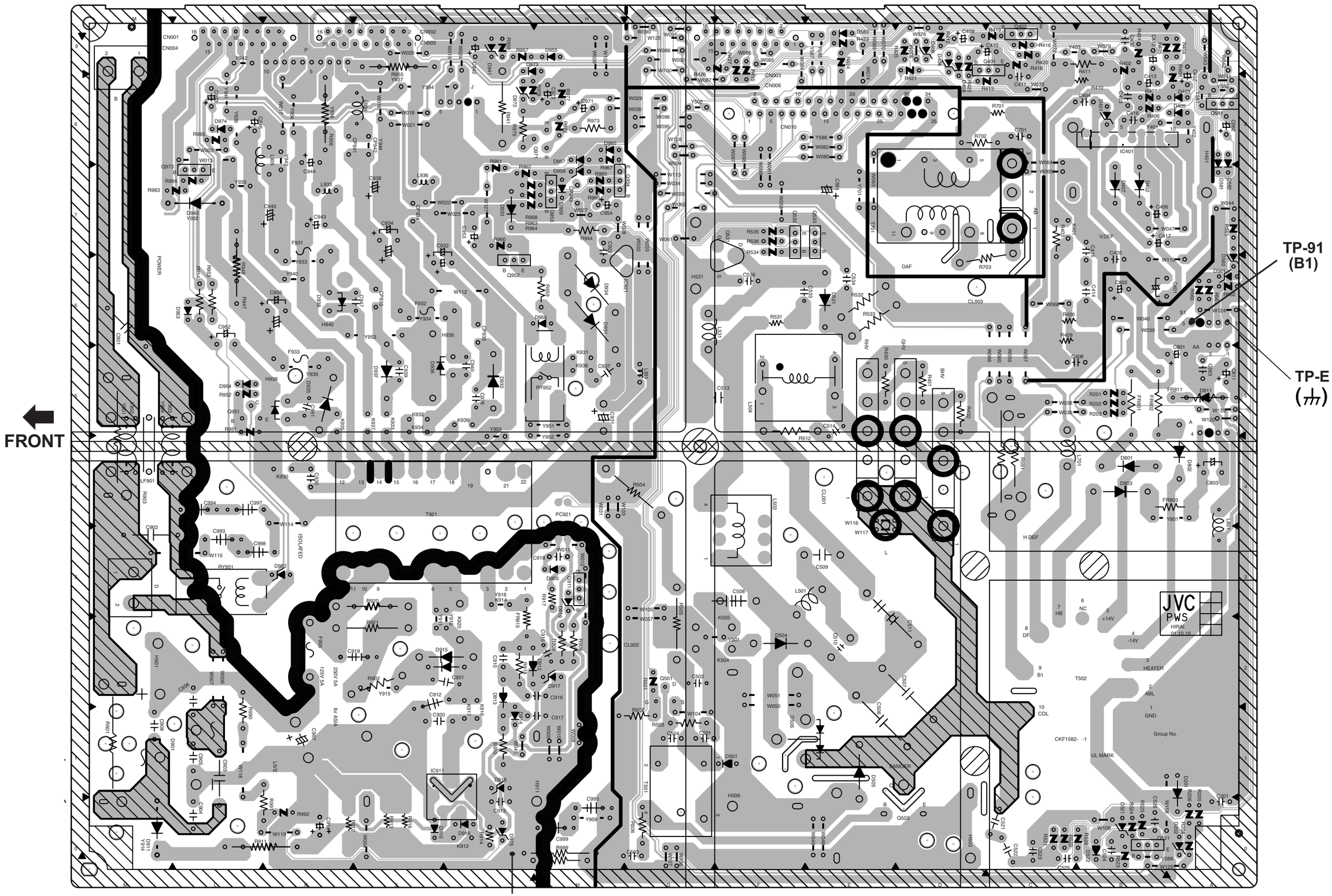
PATTERN DIAGRAMS *MAIN PWB PATTERN* [SOLDER SIDE]



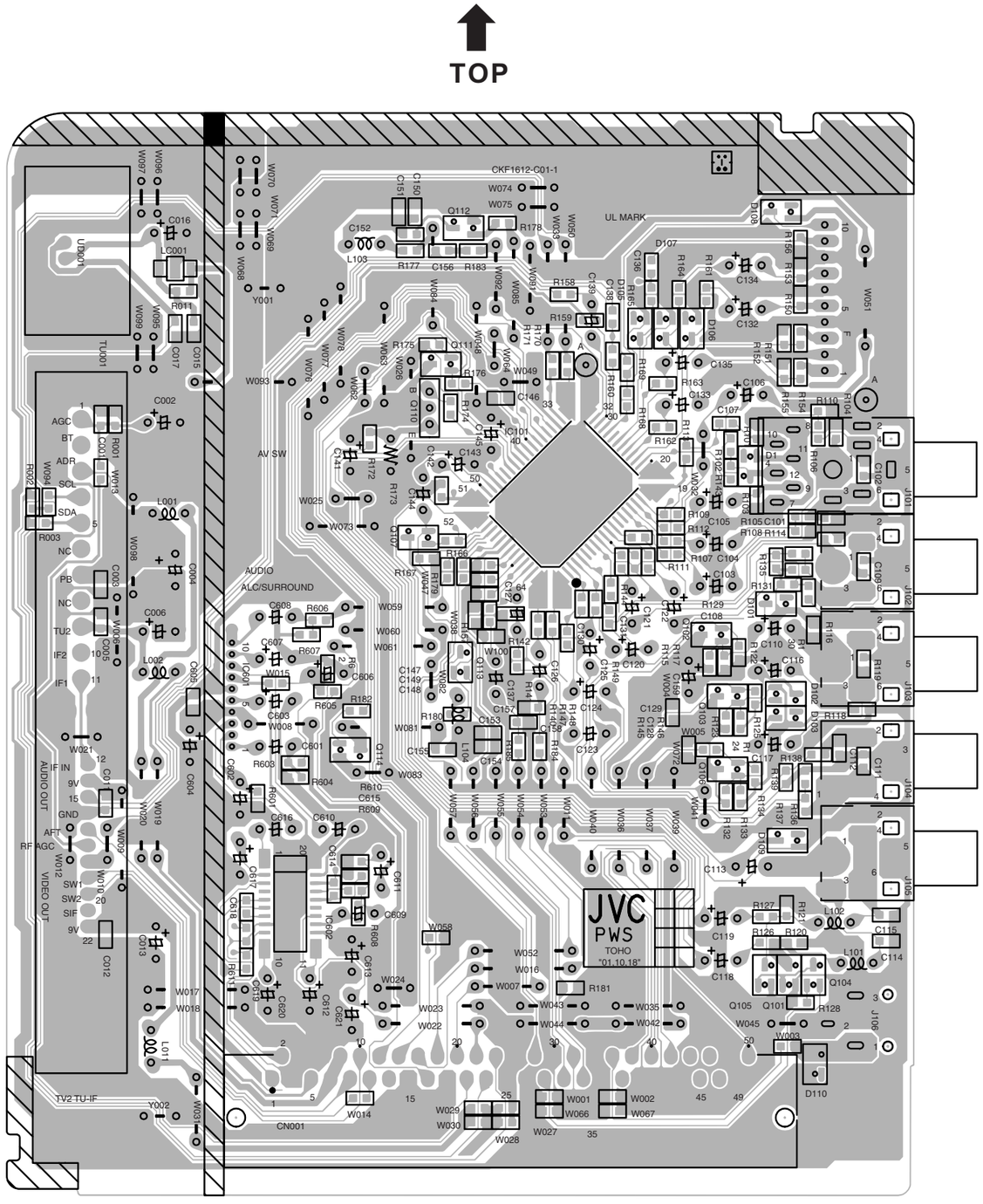
MAIN PWB PATTERN **[PARTS SIDE]**



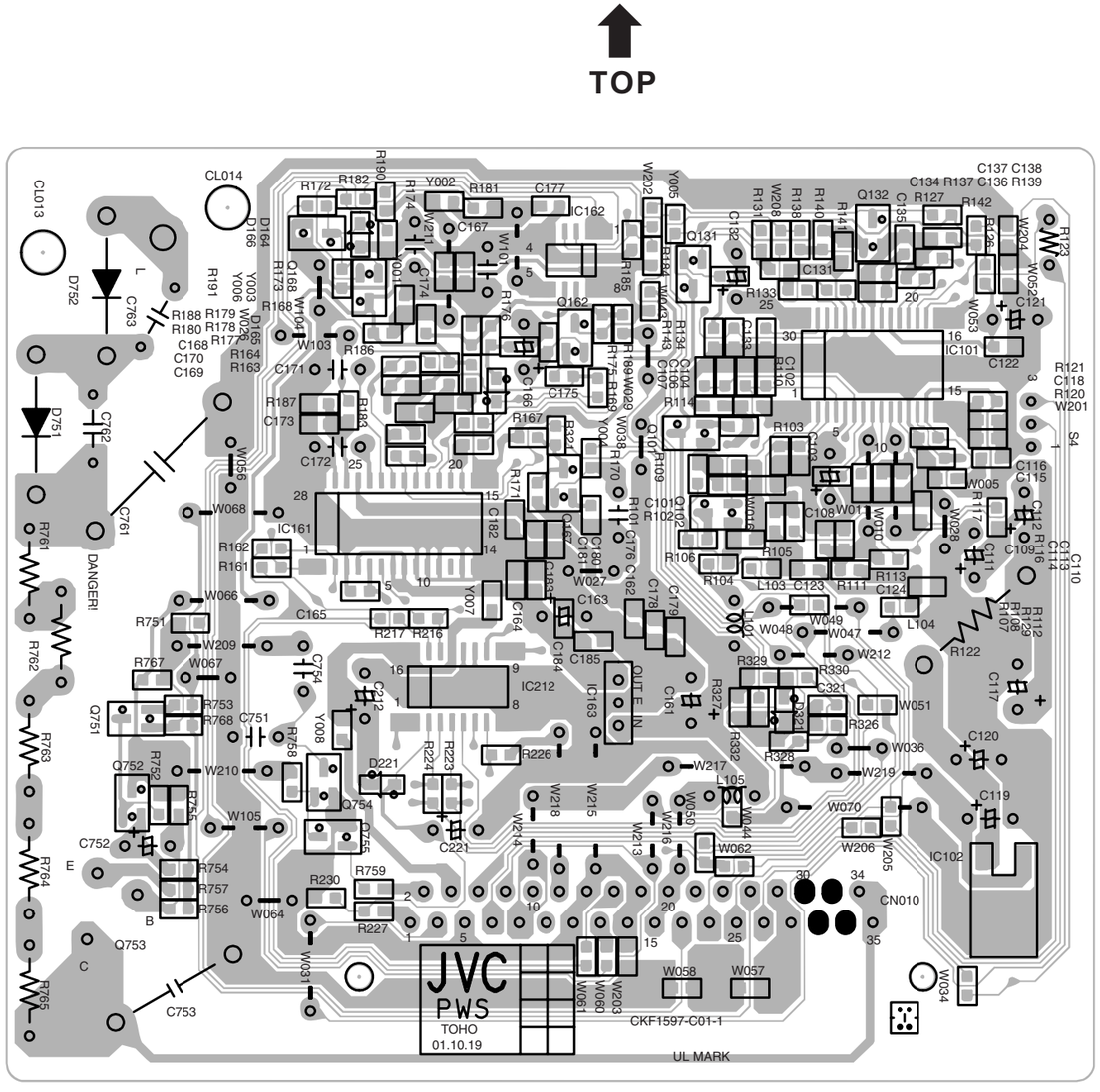
POWER & DEF. PWB PATTERN



AV TERMINAL PWB PATTERN

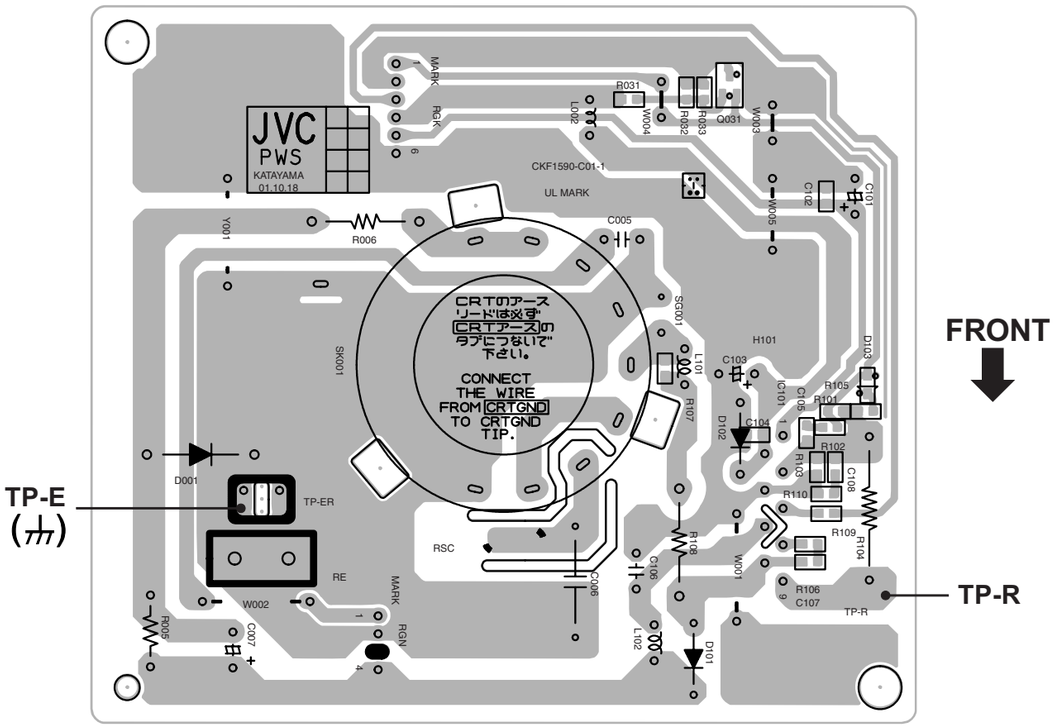


DEF OSC PWB PATTERN

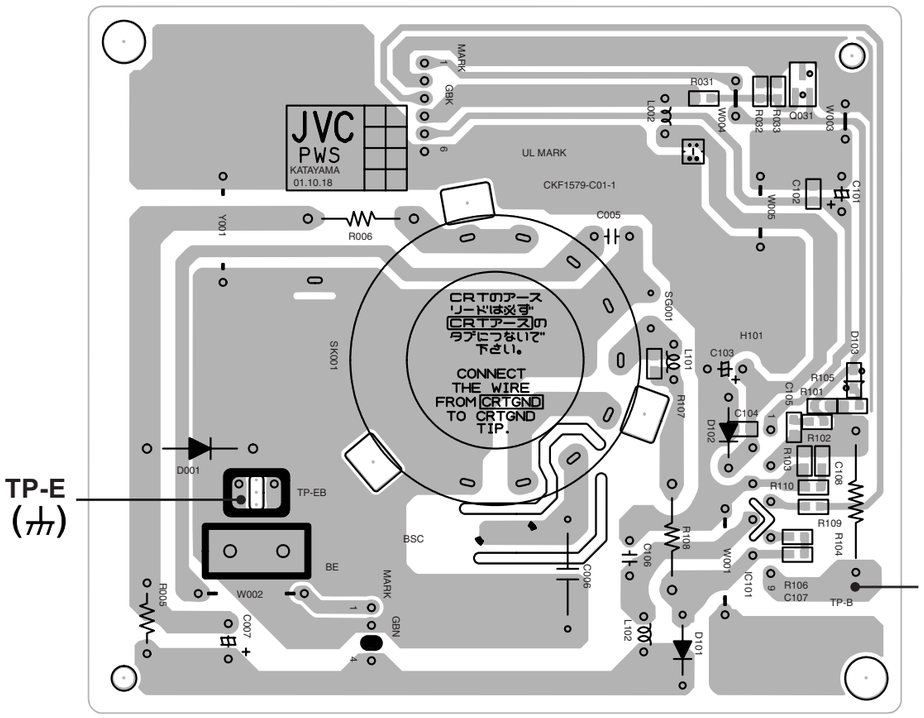


R/G/B CRT SOCKET PWB PATTERN

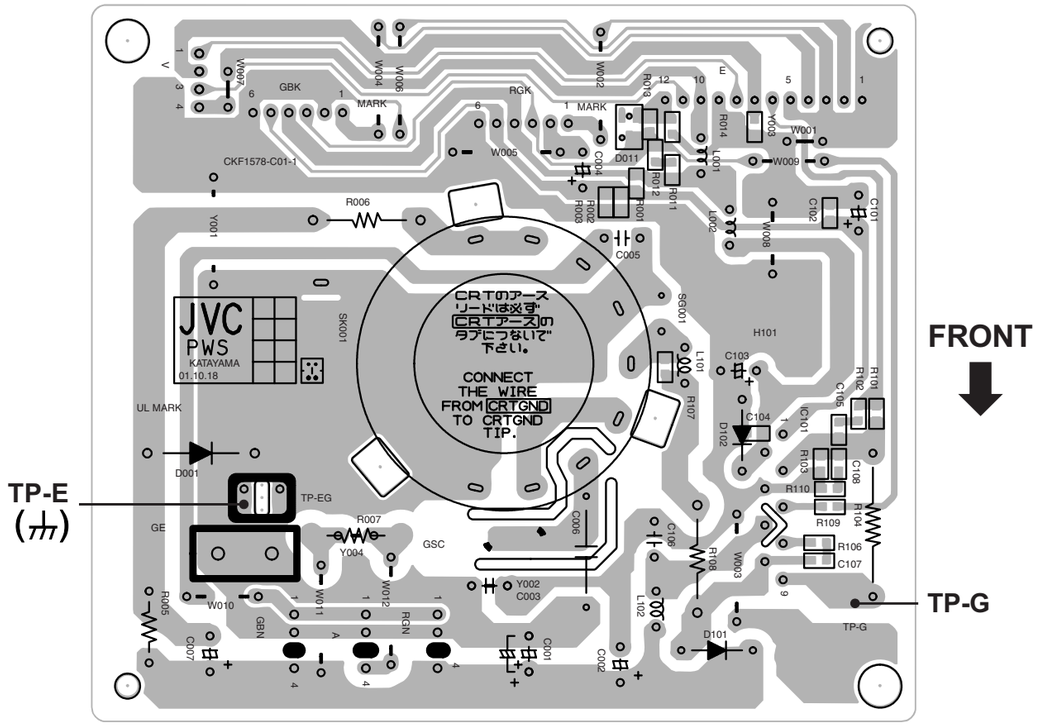
[R CRT SOCKET PWB]



[B CRT SOCKET PWB]

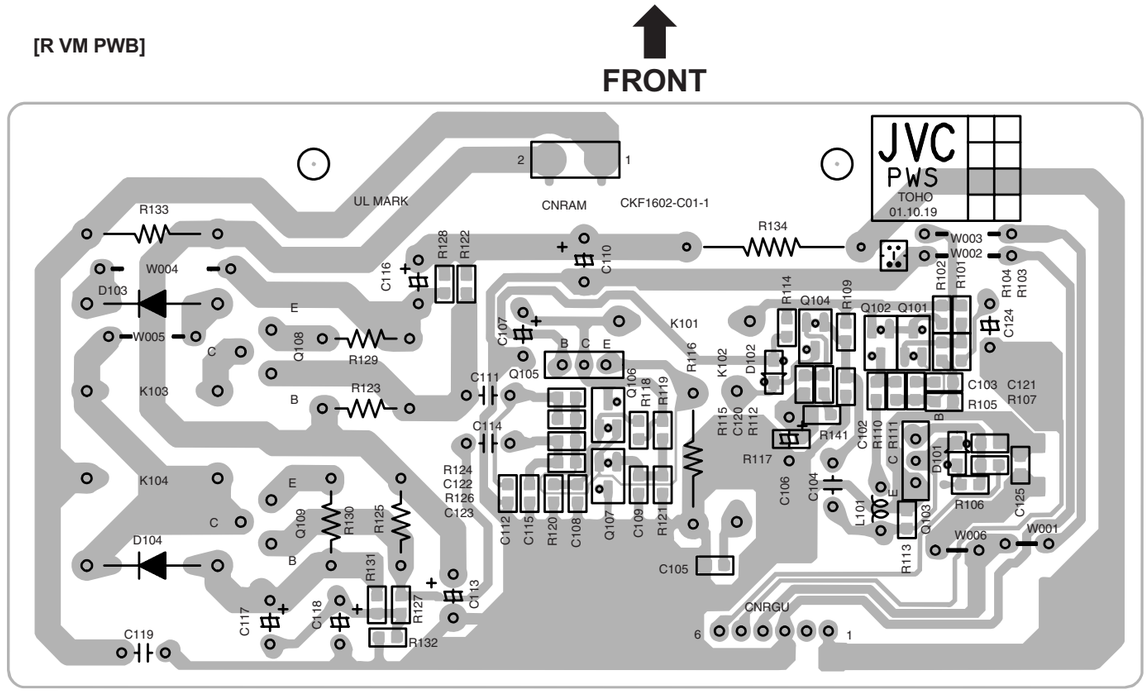


[G CRT SOCKET PWB]

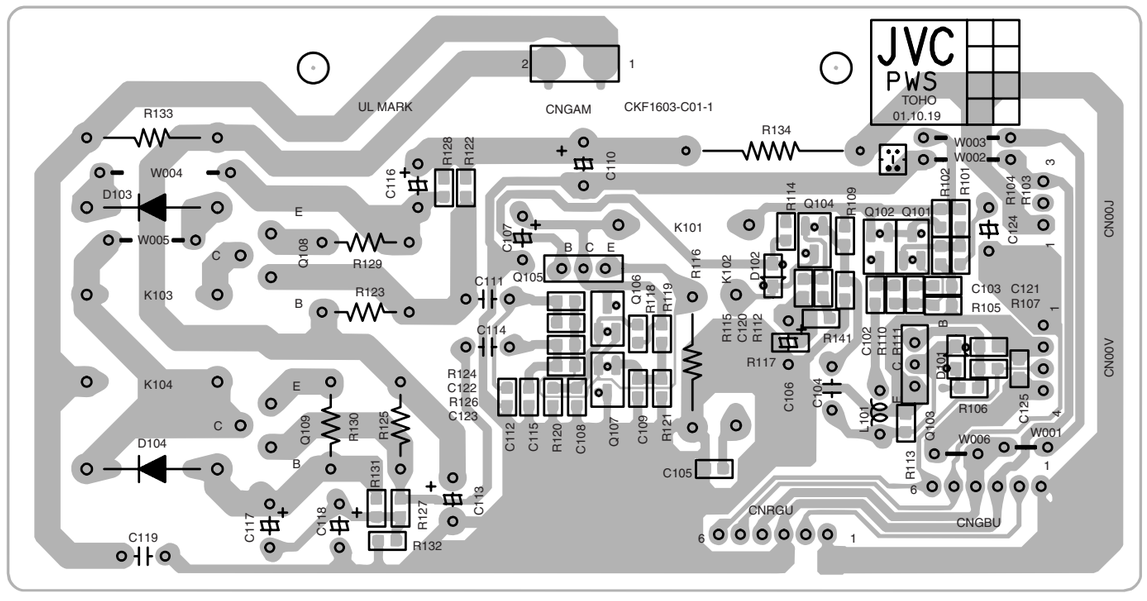


R/G/B VM PWB PATTERN

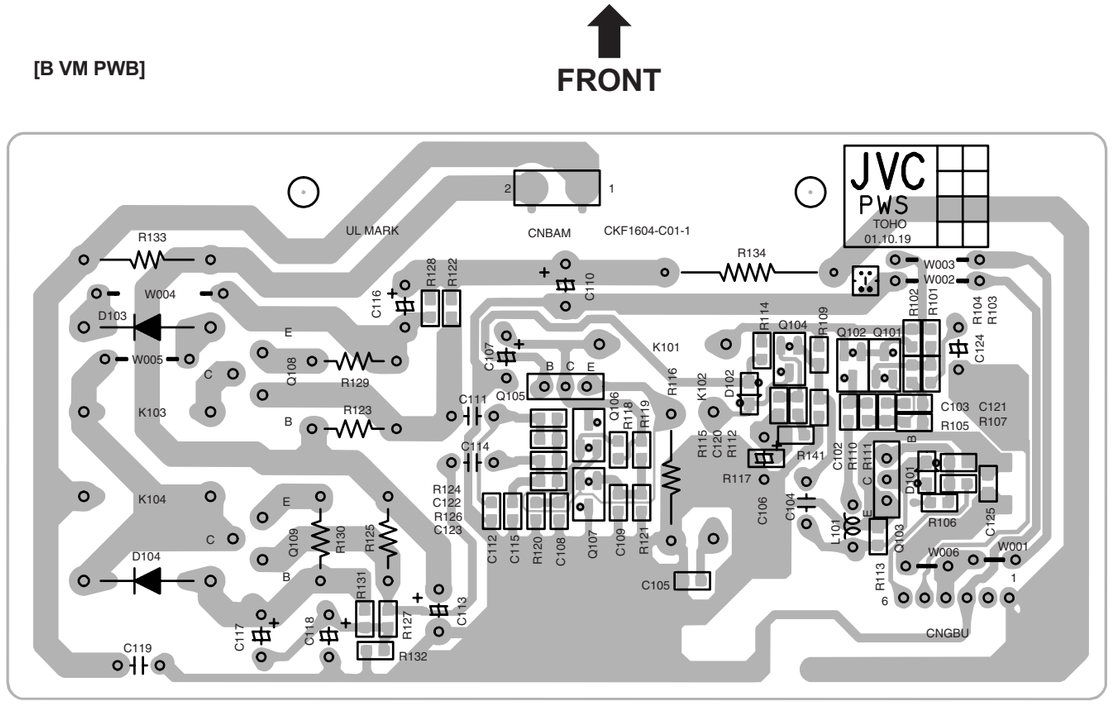
[R VM PWB]



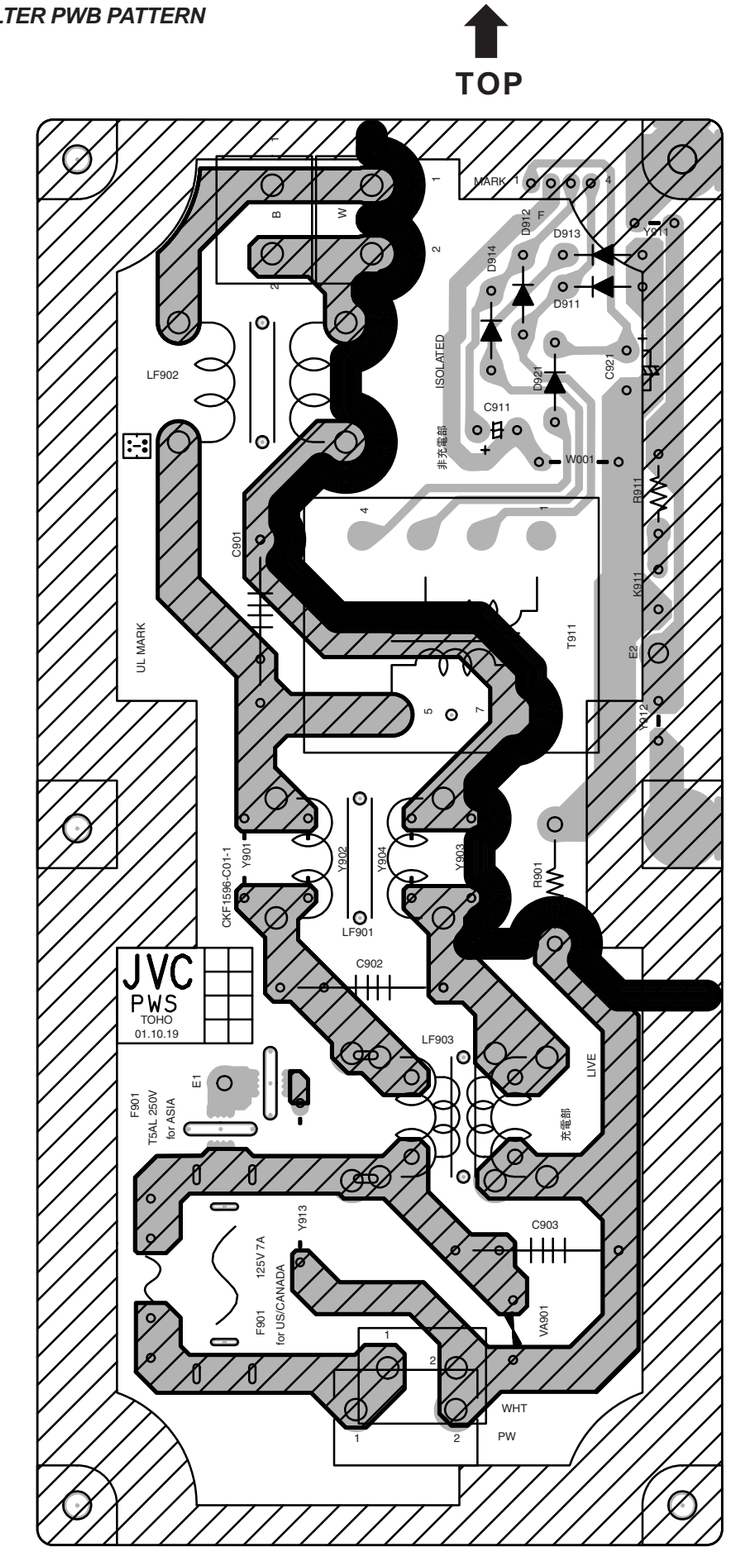
[G VM PWB]



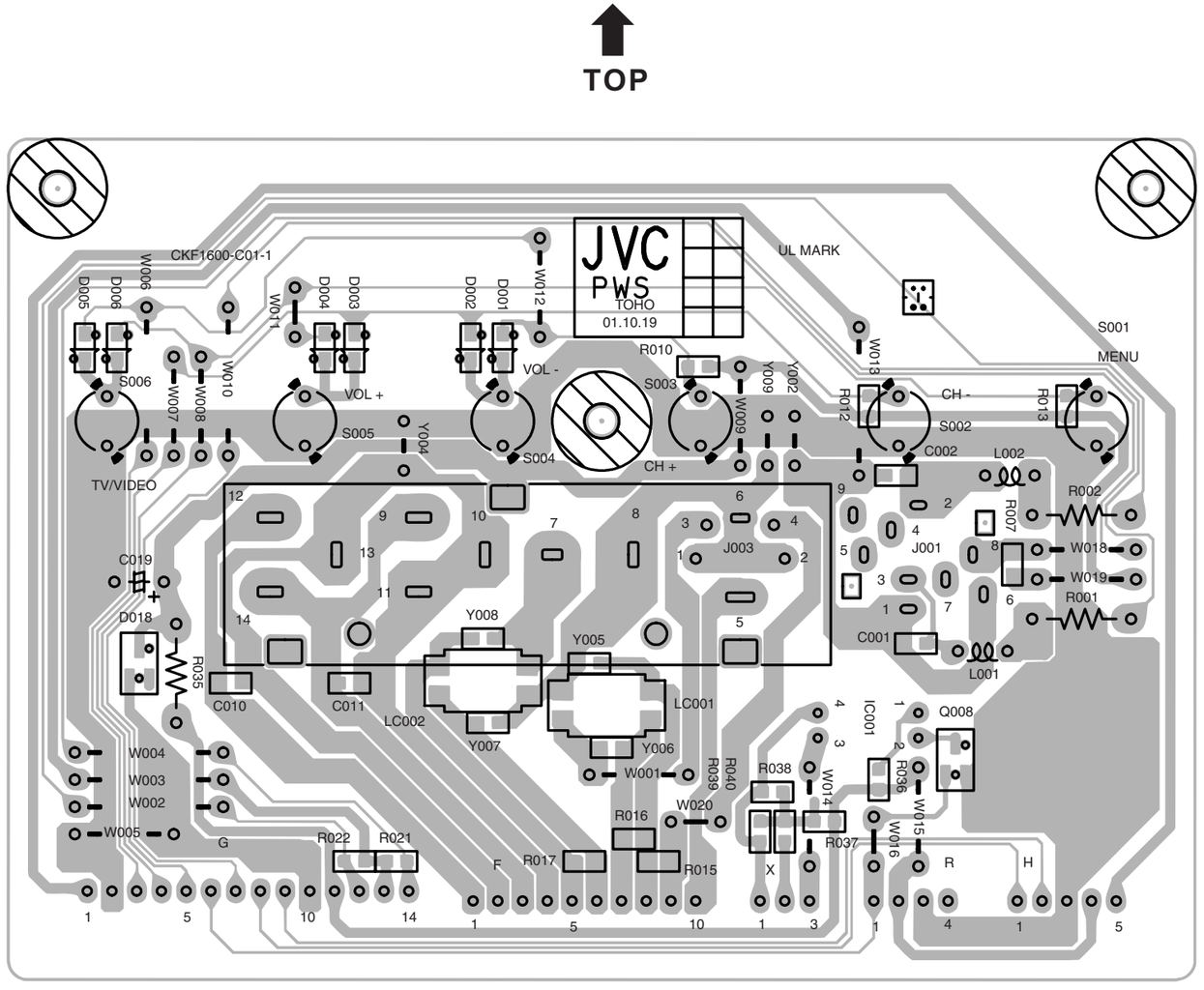
[B VM PWB]



LINE FILTER PWB PATTERN

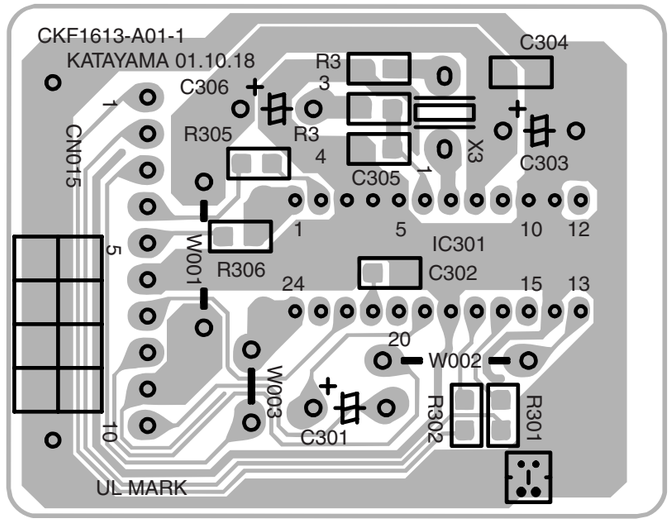


FRONT CONTROL PWB PATTERN



SYNC SEP, REMOCON SENSOR PWB PATTERN

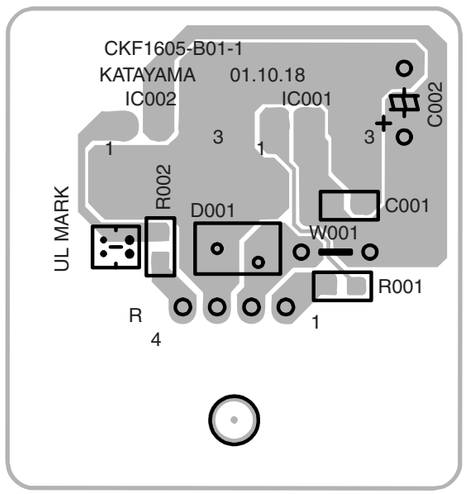
[SYNC SEP PWB PATTARN]



TOP

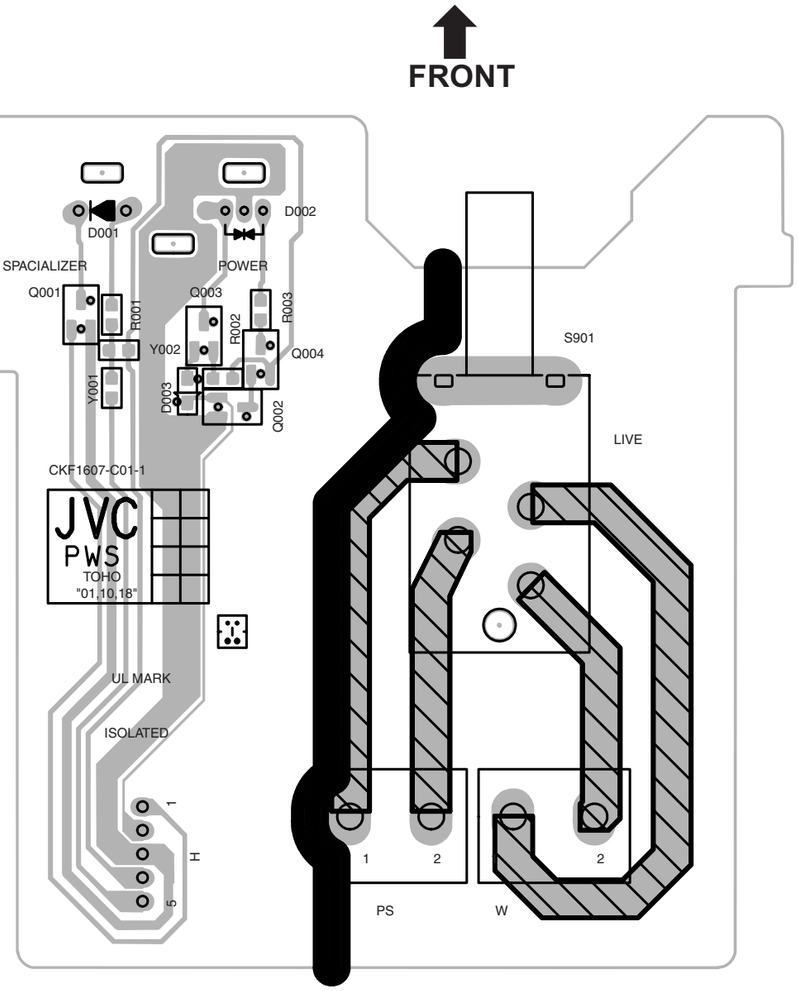
TOP

[REMOCON SENSOR PWB]



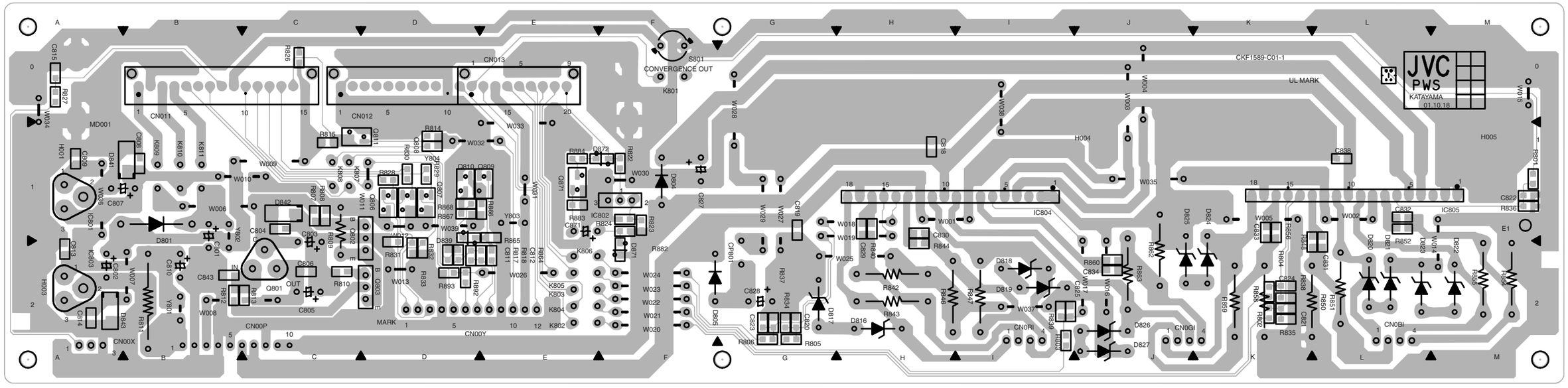
POWER SW PWB PATTERN

FRONT

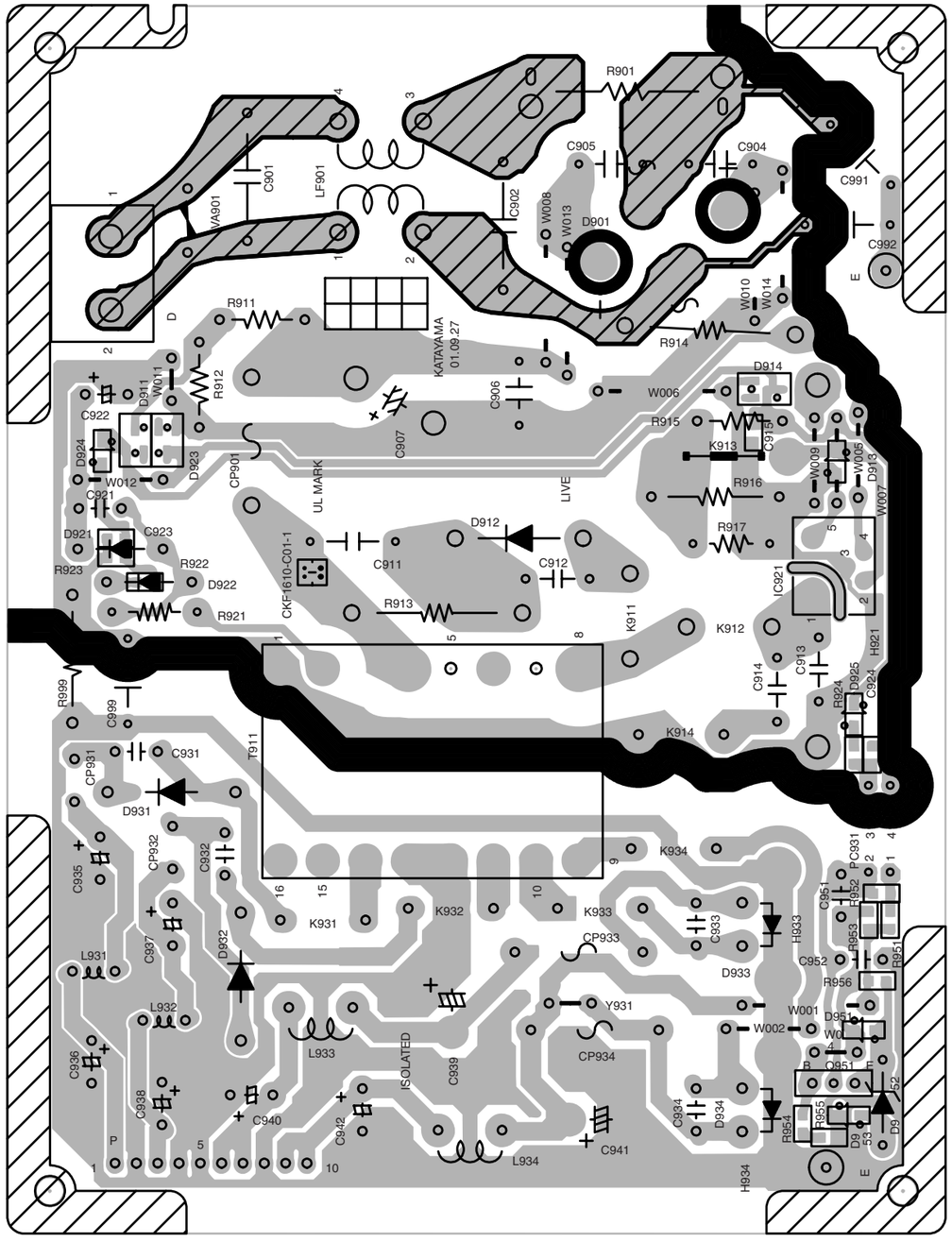


CONVERGENCE PWB PATTERN

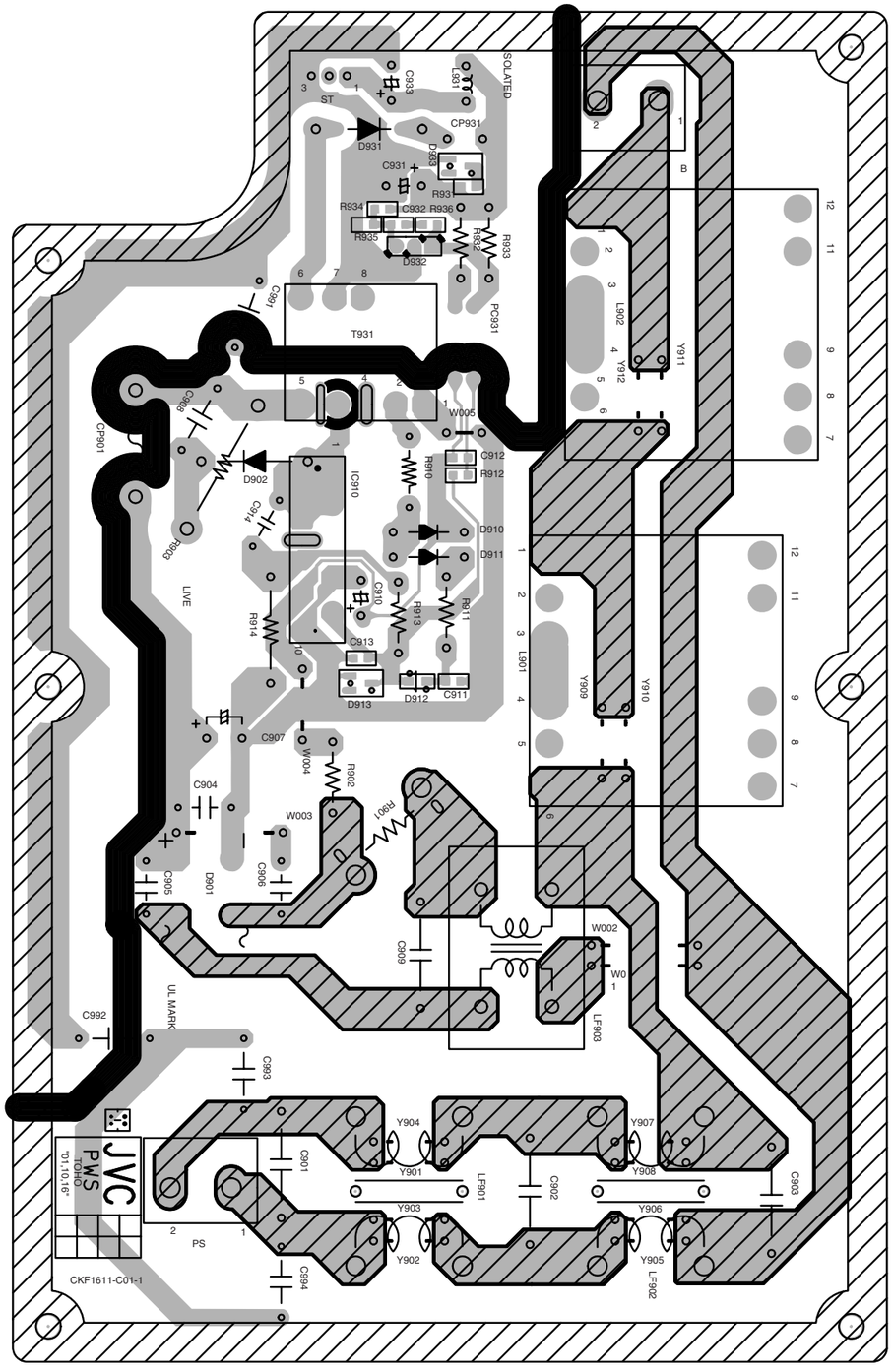
FRONT



CONVERGENCE POWER PWB PATTERN

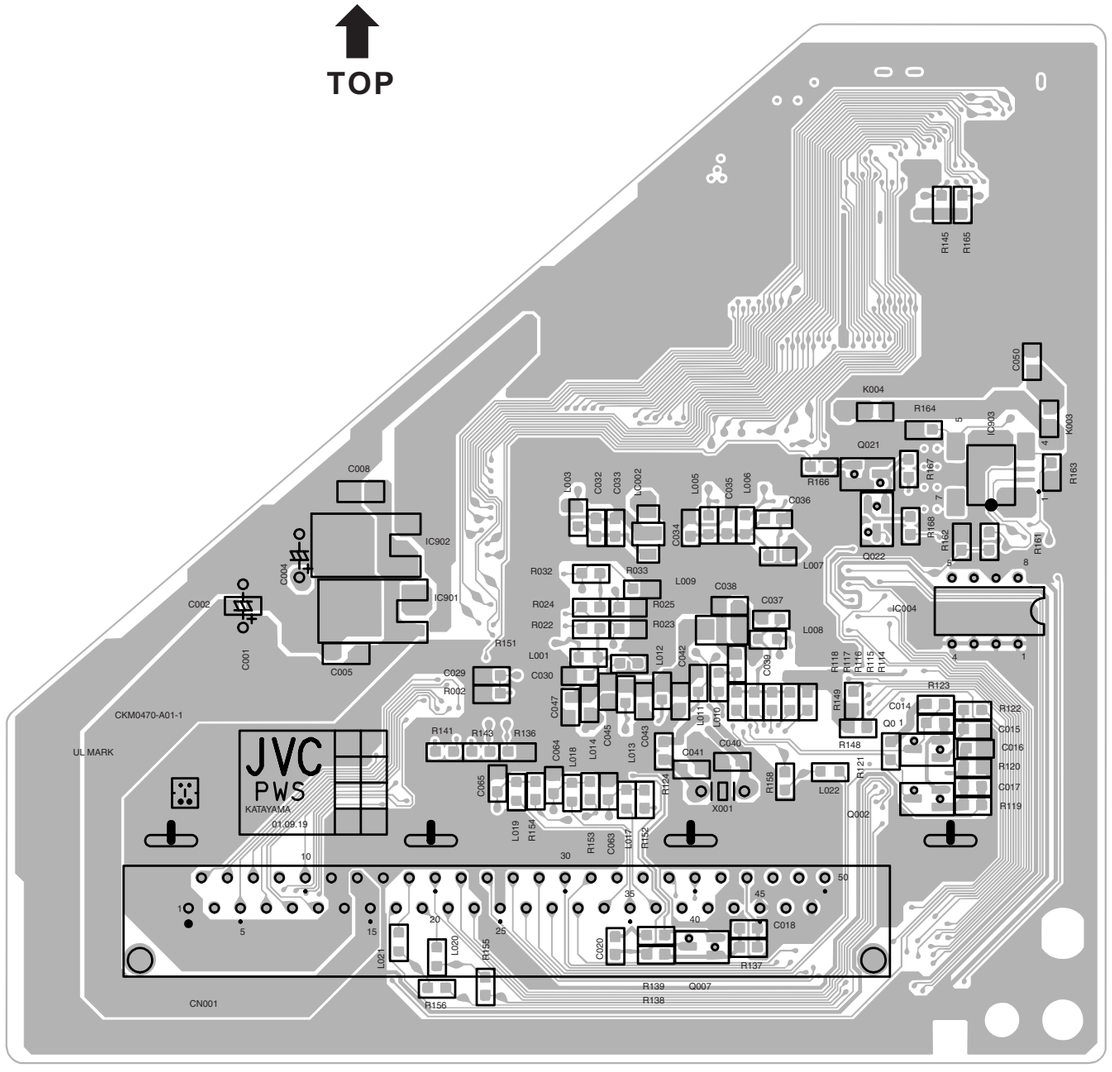


REACTOR PWB PATTERN

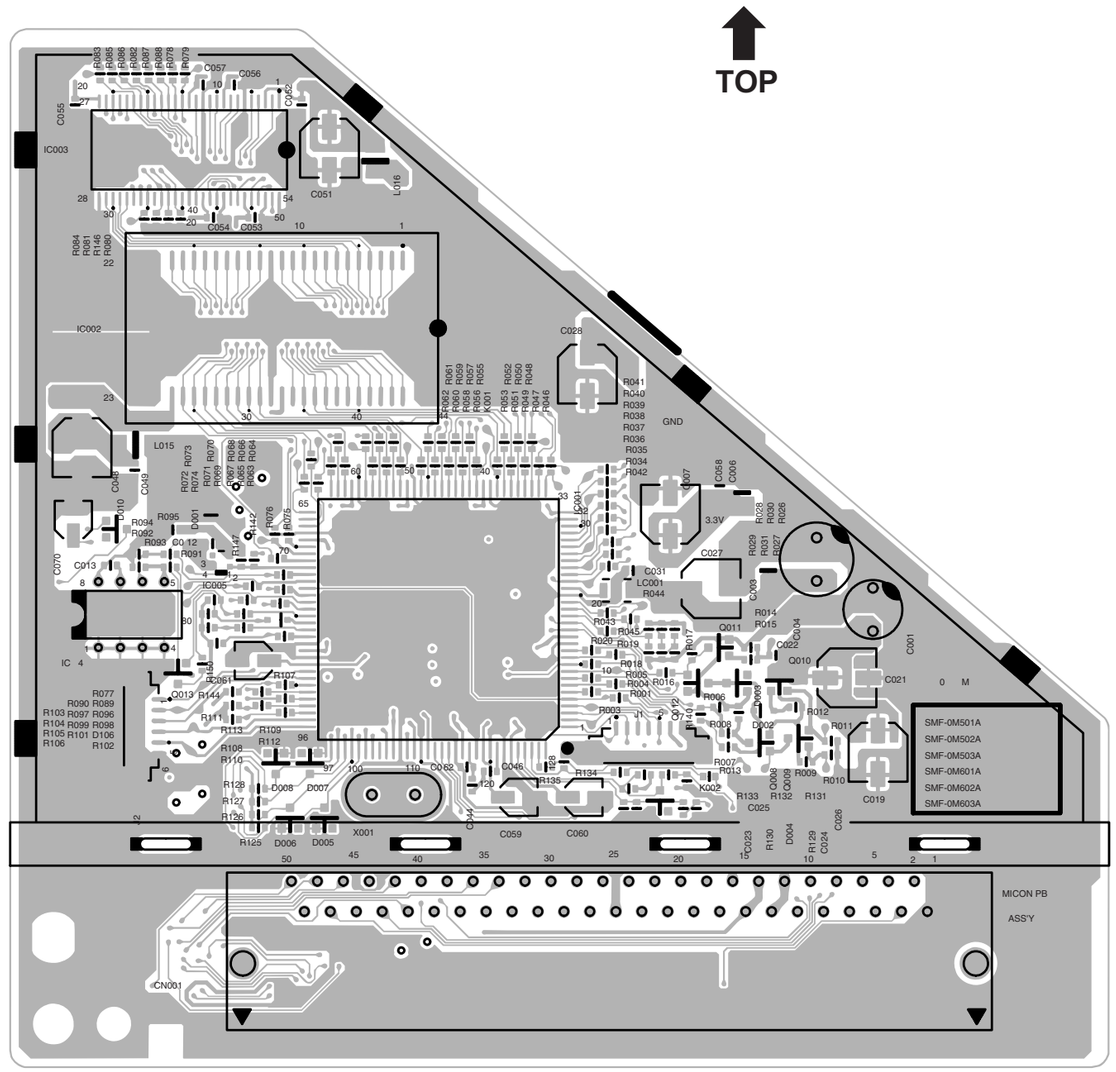


MICOM PWB PATTERN

[SOLDER SIDE]



[PARTS SIDE]



JVC

VICTOR COMPANY OF JAPAN, LIMITED

HOME AV NETWORK BUSINESS UNIT. 12, 3-chome, Moriya-cho, Kanagawa-ku, Yokohama, Kanagawa-prefecture, 221-8528, Japan

HV53PROK-H #999
HV53PROAU-H #999

Printed in Japan
VP 0202
DP6060

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines —— in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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- DEF. OSC PW BOARD ASS'Y ····· **57**
- MICOM PW BOARD ····· **58**
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■ **PACKING PARTS LIST** ····· **63**

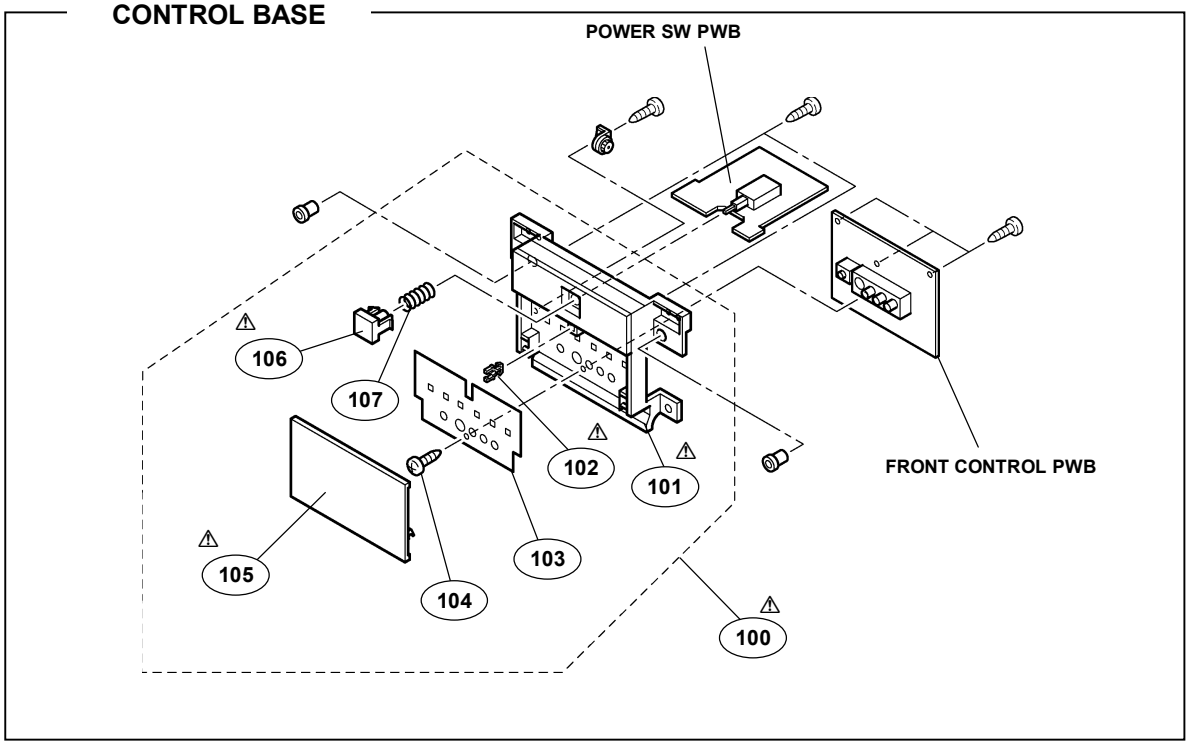
USING PW BOARD & REMOTE CONTROL UNIT

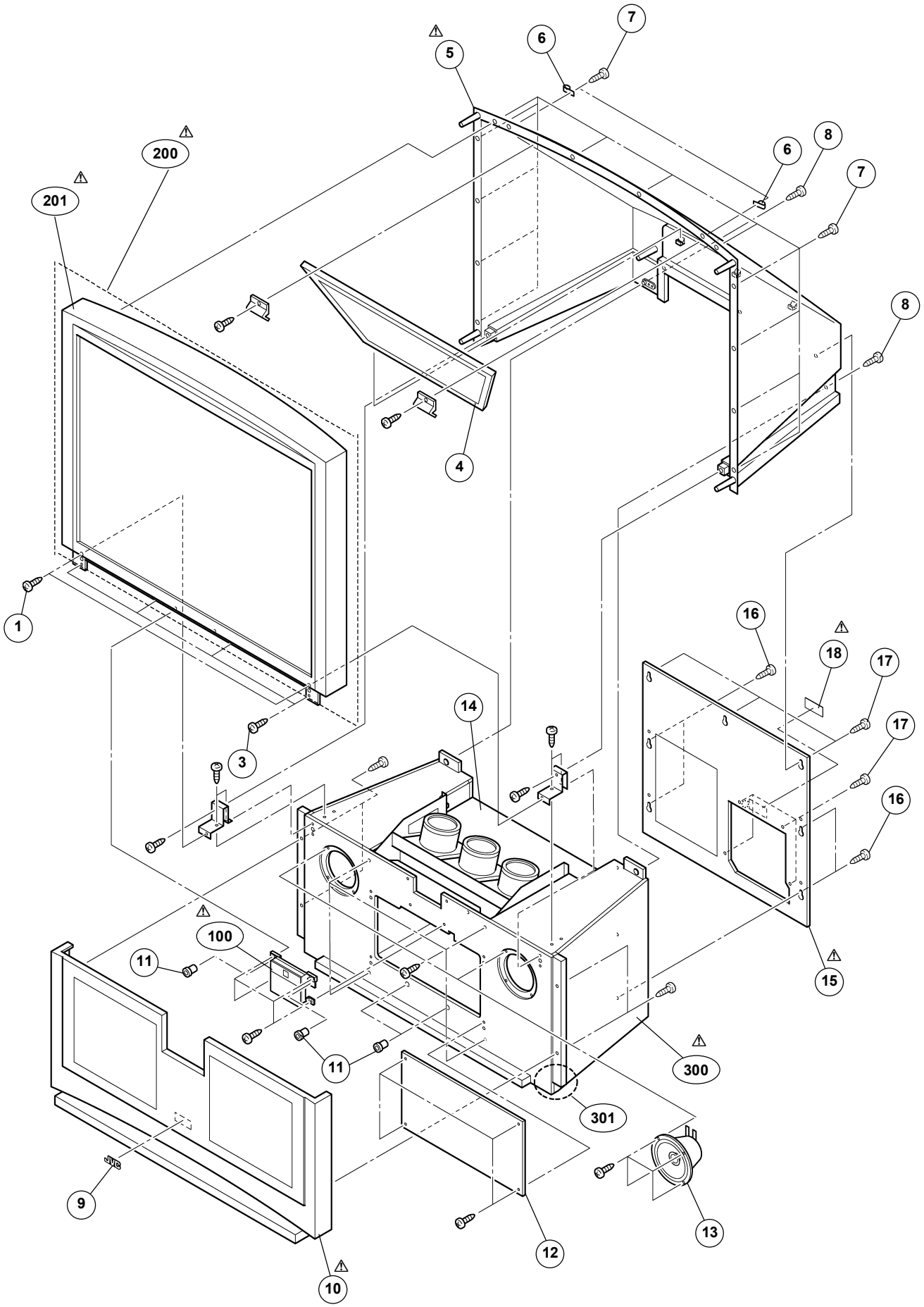
⚠	Model / PWB ASS'Y	HV-53PRO/ K	HV-53PRO/ AU
	MAIN PWB ASSY	SMF-1201A	←
	POWER&DEF. PWB ASSY	SMF-2201A	←
	R CRT SKT PWB ASSY	SMF-3201A	←
	G CRT SKT PWB ASSY	SMF-3202A	←
	B CRT SKT PWB ASSY	SMF-3203A	←
	CONVERGENCE PWB ASSY	SMF-5201A	←
	R VM PWB ASSY	SMF-7201A	←
	G VM PWB ASSY	SMF-7202A	←
	B VM PWB ASSY	SMF-7203A	←
	FRONT CTRL PWB ASSY	SMF-8201A	←
	REMOCON SENSOR PWB ASSY	SMF-8221A	←
	POWER SW PWB ASSY	SMF-8901A	←
	CONVERGENCE POWER PWB ASSY	SMF-9501A	←
	REACTOR PWB ASSY	SMF-9801A	←
	LINE FILTER PWB ASSY	SMF-9901A	←
	DEF. OSC PWB ASSY	SMF-0H201A	←
	MICOM PWB ASSY	SMF-0M201A	←
	AV TERMINAL PWB ASSY	SMF-0S201A	←
	SYNC SEP PWB ASSY	SMF-0V201A	←
	100HZ PWB ASSY	SMF-0Z201A	←
	REMOTE CONTROL UNIT	RM-C214-1C	←

EXPLODED VIEW PARTS LIST (Ⅰ)

⚠	Ref.No.	Part No.	Part Name	Description
	1	QYSBSA4012M	TAPPING SCREW	(x 2)
	3	QYSBSAG4018M	TAPPING SCREW	(x 4)
	4	LC31734-001A-AK	MIRROR 53	
⚠	5	LC11257-001C	REAR COVER	
	6	LC40690-001A	CLAMP	(x 2)
	7	QYSBSFG4016M	TAPPING SCREW	(x 14)
	8	QYSBSAG4018M	TAPPING SCREW	(x 2)
	9	CM47752-004	BRAND MARK	
⚠	10	LC11251-003B	SPEKER GRILL	
	11	LC41237-001A	RUBBER CATCH	(x 4)
	12	LC31757-001B-A	FRONT BOARD	
	13	QAS0106-001	SPEAKER	(x2) SP01-02
	14	LC20981-001B-A	SHADING BOARD	
⚠	15	LC20982-001A-A	BACK BOARD	
	16	QYSBSAG4018M	TAPPING SCREW	(x 4)
	17	QYSBSFG4016M	TAPPING SCREW	(x 7)
⚠	18	LC21093-001A	RATING LABEL	[HV-53PRO/K]
⚠	18	LC20700-013A-0L	RATING LABEL	[HV-53PRO/AU]
⚠	100	LC21029-001B	CONTROL BASE ASSY	Inc.No.101～107
⚠	101	LC11256-001C	CONTROL BASE	
⚠	102	PU60109	CATCHER	
	103	LC20984-001B	OPERATION SHEET	
	104	QYSBSF3012M	TAPPING SCREW	
⚠	105	LC31844-001C	DOOR ASSY	
⚠	106	LC31767-002A	POWER KNOB	
	107	CM30861-073	SPRING	
⚠	200	53PRO-SC-SA	SCREEN ASSY	Inc.No.201 (SERVICE)
⚠	201	LC11255-001B	FRONT PANEL	
⚠	300	LC11258-001A	BODY	Inc.No.301
	301	CM36396-00A	CASTER	(x4)

EXPLODED VIEW (Ⅰ)

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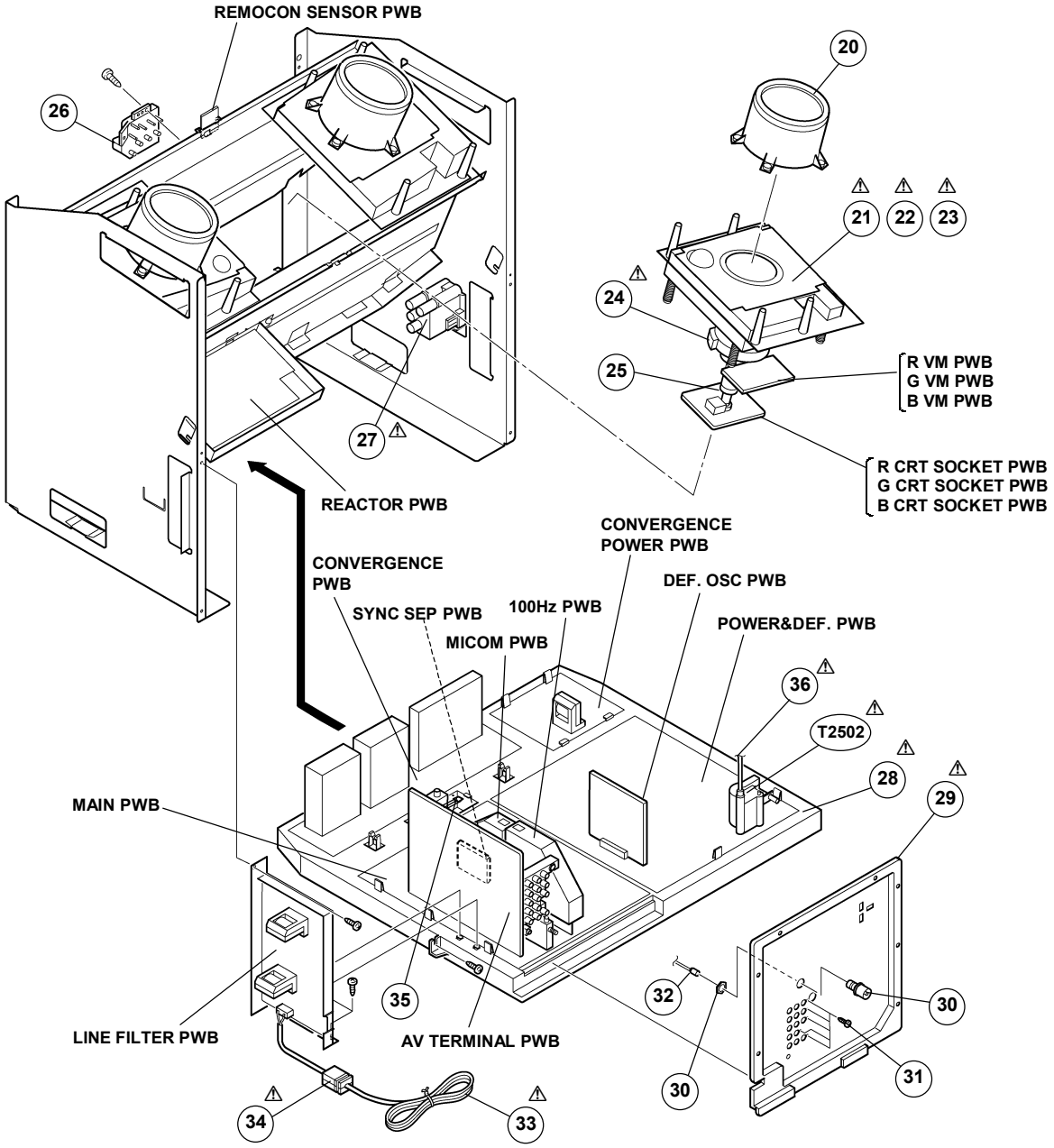
201
300
301

EXPLODED VIEW PARTS LIST (Ⅱ)

⚠ Ref.No.	Part No.	Part Name	Description
20	LC31735-001A-A	PJ LENS D250	(×3)
⚠ 21	R CRT SA	R CRT ASSY	
⚠ 22	G CRT SA	G CRT ASSY	
⚠ 23	B CRT SA	B CRT ASSY	
⚠ 24	QQD0075-001	DEFLECTION YOKE	(×3)
25	QAL0398-001	PC MAGNET	(×3)
26	QAE0006-001	FOCUS PACK	
⚠ 27	QAE0005-001	HV DIVIDER	
⚠ 28	LC11249-001A-A	CHASSIS BASE	
⚠ 29	LC11250-002C-A	TERMINAL BOARD	
30	QNB0112-001	ANT.TERMINAL	
31	QYSBSF3012M	TAPPING SCREW	(×5)
32	CHGY0017-0A-YS	ANTENNA CABLE	
⚠ 33	QMPR390-200-JC	POWER CORD	[HV-53PRO/K]
⚠ 33	QMP2980-185J5	POWER CORD	[HV-53PRO/AU]
⚠ 34	CM23167-A01-H	CORD CLAMP	
35	CHGY0031-0C-N	ANTENNA CABLE	
⚠ 36	QNZ0563-001	ANODE WIRE ASSY	
⚠ T2502	QQH0113-002	FBT	

EXPLODED VIEW (Ⅱ)



PRINTED WIRING BOARD PARTS LIST

MAIN P.W. BOARD ASS'Y (SMF-1201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R1004-05	NRSA63J-101X	MG R	100Ω 1/16W J
	R1006	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1008	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1101	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1102	NRSA63J-181X	MG R	180Ω 1/16W J
	R1103	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R1104	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1105	NRSA63J-331X	MG R	330Ω 1/16W J
	R1106	NRSA63J-270X	MG R	27Ω 1/16W J
	R1107	NRSA63J-271X	MG R	270Ω 1/16W J
	R1108	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1109-11	NRSA63J-101X	MG R	100Ω 1/16W J
	R1151	NRSA63J-101X	MG R	100Ω 1/16W J
	R1153	NRSA63J-101X	MG R	100Ω 1/16W J
	R1155	NRSA63J-101X	MG R	100Ω 1/16W J
	R1157	NRSA63J-101X	MG R	100Ω 1/16W J
	R1159	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1161	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1301-02	NRSA63J-101X	MG R	100Ω 1/16W J
	R1303	NRSA63J-273X	MG R	27kΩ 1/16W J
	R1304	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1311	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1312	NRSA63J-273X	MG R	27kΩ 1/16W J
	R1314	NRSA63J-221X	MG R	220Ω 1/16W J
	R1315-17	NRSA63J-101X	MG R	100Ω 1/16W J
	R1318	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1319	NRSA63J-183X	MG R	18kΩ 1/16W J
	R1321-22	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1323-24	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R1325	NRSA63J-101X	MG R	100Ω 1/16W J
	R1326	NRSA63J-682X	MG R	6.8kΩ 1/16W J
	R1330-32	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1334	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1335-37	NRSA63J-682X	MG R	6.8kΩ 1/16W J
	R1341	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R1342	NRSA63J-821X	MG R	820Ω 1/16W J
	R1343-44	NRSA63J-123X	MG R	12kΩ 1/16W J
	R1346	NRSA63J-392X	MG R	3.9kΩ 1/16W J
	R1347	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1351-53	NRSA63J-331X	MG R	330Ω 1/16W J
	R1354-56	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R1357	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1401-02	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1403-04	NRSA63J-331X	MG R	330Ω 1/16W J
	R1405-06	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1407	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1409	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1451	NRSA63J-821X	MG R	820Ω 1/16W J
	R1454	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1455-56	NRSA63J-123X	MG R	12kΩ 1/16W J
	R1457	NRSA63J-392X	MG R	3.9kΩ 1/16W J
	R1458	NRSA63J-123X	MG R	12kΩ 1/16W J
	R1459	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1461	NRSA63J-123X	MG R	12kΩ 1/16W J
	R1462	NRSA63J-153X	MG R	15kΩ 1/16W J
	R1463	NRSA63J-333X	MG R	33kΩ 1/16W J
	R1465-66	NRSA63J-224X	MG R	220kΩ 1/16W J
	R1467	NRSA63J-563X	MG R	56kΩ 1/16W J
	R1468	NRSA63J-224X	MG R	220kΩ 1/16W J
	R1469	NRSA63J-683X	MG R	68kΩ 1/16W J
	R1470	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1471	NRSA63J-273X	MG R	27kΩ 1/16W J
	R1472	NRSA63J-682X	MG R	6.8kΩ 1/16W J
	R1473	NRSA63J-123X	MG R	12kΩ 1/16W J

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R1474	NRSA63J-563X	MG R	56kΩ 1/16W J
	R1475	NRSA63J-153X	MG R	15kΩ 1/16W J
	R1476-78	NRSA63J-123X	MG R	12kΩ 1/16W J
	R1479	NRSA63J-154X	MG R	150kΩ 1/16W J
	R1480	NRSA63J-823X	MG R	82kΩ 1/16W J
	R1481	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1482	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R1483	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1484	NRSA63J-473X	MG R	47kΩ 1/16W J
	R1485	NRSA63J-123X	MG R	12kΩ 1/16W J
	R1486	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1487	NRSA63J-183X	MG R	18kΩ 1/16W J
	R1489	NRSA63J-333X	MG R	33kΩ 1/16W J
	R1491	NRSA63J-392X	MG R	3.9kΩ 1/16W J
	R1492	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1501	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1504	NRSA63J-102X	MG R	1kΩ 1/16W J
	R1505	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R1511	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R1512	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R1521	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1522	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1591	NRSA63J-561X	MG R	560Ω 1/16W J
	R1592	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R1595	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1597	NRSA63J-103X	MG R	10kΩ 1/16W J
	R1598	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R1599	NRSA63J-104X	MG R	100kΩ 1/16W J
	R1600	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1606	NRSA63J-104X	MG R	100kΩ 1/16W J
	R1611-12	NRSA63J-104X	MG R	100kΩ 1/16W J
	R1613	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R1614-15	NRSA63J-104X	MG R	100kΩ 1/16W J
	R1616	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1617	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1621	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1622	NRSA63J-471X	MG R	470Ω 1/16W J
	R1623-25	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1626	QRK126J-103X	C R	10kΩ 1/2W J
	R1627	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1628	NRSA63J-471X	MG R	470Ω 1/16W J
	R1629-30	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1631	NRSA63J-333X	MG R	33kΩ 1/16W J
	R1632-33	NRSA63J-103X	MG R	10kΩ 1/16W J
	R1634	NRSA63J-334X	MG R	330kΩ 1/16W J
	R1635	NRSA63J-333X	MG R	33kΩ 1/16W J
	R1640-41	NRSA63J-681X	MG R	680Ω 1/16W J
	R1647	NRSA63J-334X	MG R	330kΩ 1/16W J
	R1652	QRK126J-2R2X	C R	2.2Ω 1/2W J
	R1653	QRK126J-2R2X	C R	2.2Ω 1/2W J
	R1656	NRSA63J-104X	MG R	100kΩ 1/16W J
	R1658	QRJ146J-332X	C R	3.3kΩ 1/4W J
	R1661	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1662-63	NRSA63J-394X	MG R	390kΩ 1/16W J
	R1666-69	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R1672	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1673	NRSA63J-273X	MG R	27kΩ 1/16W J
	R1675	NRSA63J-103X	MG R	10kΩ 1/16W J
	R1677-78	NRSA63J-103X	MG R	10kΩ 1/16W J
	R1679	NRSA63J-223X	MG R	22kΩ 1/16W J
	R1680	NRSA63J-273X	MG R	27kΩ 1/16W J
	R1681	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R1693-94	NRSA63J-104X	MG R	100kΩ 1/16W J
	R1701-02	NRSA63J-103X	MG R	10kΩ 1/16W J

⚠ Symbol No.	Part No.	Part Name	Description
RESISTOR			
R1703-04	NRSA63J-472X	MG R	4.7kΩ 1/16W J
R1705	NRSA63J-103X	MG R	10kΩ 1/16W J
R1707-08	NRSA63J-103X	MG R	10kΩ 1/16W J
R1711-12	NRSA63J-101X	MG R	100Ω 1/16W J
R1715	NRSA63J-102X	MG R	1kΩ 1/16W J
R1716-17	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
R1721	NRSA63J-102X	MG R	1kΩ 1/16W J
R1723	NRSA63J-102X	MG R	1kΩ 1/16W J
R1731-41	NRSA63J-103X	MG R	10kΩ 1/16W J
R1742-43	NRSA63J-101X	MG R	100Ω 1/16W J
R1751	NRSA63J-682X	MG R	6.8kΩ 1/16W J
R1753	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
R1756	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
R1757	NRSA63J-473X	MG R	47kΩ 1/16W J
R1759-60	NRSA63J-100X	MG R	10Ω 1/16W J
R1763	NRSA63J-100X	MG R	10Ω 1/16W J
R1764	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
R1765	QRE141J-0R0Y	C R	0.0Ω 1/4W J
R1772-76	NRSA63J-221X	MG R	220Ω 1/16W J
R1951	QRK126J-560X	C R	56Ω 1/2W J
R1952	NRSA63J-103X	MG R	10kΩ 1/16W J
R1953	NRSA63J-563X	MG R	56kΩ 1/16W J
R1954	NRSA63J-102X	MG R	1kΩ 1/16W J
R1955	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
R1957	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
CAPACITOR			
C1001	NCB31HK-222X	C CAP.	2200pF 50V K
C1002	QETN1HM-106Z	E CAP.	10μF 50V M
C1004	NCB31CK-104X	C CAP.	0.1μF 16V K
C1005	QETN1CM-108Z	E CAP.	1000μF 16V M
C1006	NCB31HK-103X	C CAP.	0.01μF 50V K
C1007	QETN1HM-106Z	E CAP.	10μF 50V M
C1008	NCB31CK-104X	C CAP.	0.1μF 16V K
C1009	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
C1010	QETN1HM-106Z	E CAP.	10μF 50V M
C1011	NCB31CK-104X	C CAP.	0.1μF 16V K
C1101	NCB31CK-104X	C CAP.	0.1μF 16V K
C1102	QETN1HM-106Z	E CAP.	10μF 50V M
C1103	NCB31CK-104X	C CAP.	0.1μF 16V K
C1104	QETN1CM-107Z	E CAP.	100μF 16V M
C1105	QETN1HM-106Z	E CAP.	10μF 50V M
C1106-07	NCB31CK-104X	C CAP.	0.1μF 16V K
C1111	NDC31HJ-820X	C CAP.	82pF 50V J
C1112-13	NDC31HJ-470X	C CAP.	47pF 50V J
C1114	NDC31HJ-180X	C CAP.	18pF 50V J
C1115-16	NCB31HK-472X	C CAP.	4700pF 50V K
C1117-18	NCB31HK-103X	C CAP.	0.01μF 50V K
C1119-20	NDC31HJ-2R0X	C CAP.	2.0pF 50V J
C1121	NCB31HK-103X	C CAP.	0.01μF 50V K
C1122-23	NDC31HJ-102X	C CAP.	1000pF 50V J
C1124-25	QETN1HM-106Z	E CAP.	10μF 50V M
C1126	NCB31CK-104X	C CAP.	0.1μF 16V K
C1127	QETN1HM-106Z	E CAP.	10μF 50V M
C1128	NCB31CK-104X	C CAP.	0.1μF 16V K
C1129	NCF31AZ-105X	C CAP.	1μF 10V Z
C1130	QETN1HM-106Z	E CAP.	10μF 50V M
C1151-54	NCF31AZ-105X	C CAP.	1μF 10V Z
C1155-56	NDC31HJ-102X	C CAP.	1000pF 50V J
C1301	QETN1CM-107Z	E CAP.	100μF 16V M
C1302-03	NCB31CK-104X	C CAP.	0.1μF 16V K
C1305-09	NCB31CK-104X	C CAP.	0.1μF 16V K
C1310	QETN1AM-228Z	E CAP.	2200μF 10V M
C1311	NCB31CK-683X	CHIP CAP.	0.068μF 16V K

⚠ Symbol No.	Part No.	Part Name	Description
CAPACITOR			
C1312	NDC31HJ-331X	C CAP.	330pF 50V J
C1313-15	NCB31HK-223X	CHIP CAP.	0.022μF 50V K
C1316-18	NCB31HK-103X	C CAP.	0.01μF 50V K
C1320	QETN0JM-228Z	E CAP.	2200μF 6.3V M
C1321-23	NCB31HK-223X	CHIP CAP.	0.022μF 50V K
C1324	NDC31HJ-820X	C CAP.	82pF 50V J
C1401	NCB31CK-104X	C CAP.	0.1μF 16V K
C1402	QETN1CM-107Z	E CAP.	100μF 16V M
C1403-04	NCB31CK-104X	C CAP.	0.1μF 16V K
C1453	NCB31HK-103X	C CAP.	0.01μF 50V K
C1454	NCB31EK-333X	CHIP CAP.	0.033μF 25V K
C1455-56	NCB31CK-104X	C CAP.	0.1μF 16V K
C1457	NCB31EK-333X	CHIP CAP.	0.033μF 25V K
C1471	NCB31CK-104X	C CAP.	0.1μF 16V K
C1472	NCB31HK-103X	C CAP.	0.01μF 50V K
C1473	NCB31CK-104X	C CAP.	0.1μF 16V K
C1474	NCB31EK-333X	CHIP CAP.	0.033μF 25V K
C1475	NCB31CK-104X	C CAP.	0.1μF 16V K
C1476	NDC31HJ-121X	C CAP.	120pF 50V J
C1491	NCB31EK-473X	C CAP.	0.047μF 25V K
C1501-02	NDC31HJ-150X	C CAP.	15pF 50V J
C1521	NCB31HK-103X	C CAP.	0.01μF 50V K
C1564	NCB31CK-104X	C CAP.	0.1μF 16V K
C1591	NDC31HJ-471X	C CAP.	470pF 50V J
C1595	NCB31CK-104X	C CAP.	0.1μF 16V K
C1606-07	QETN1CM-228Z	E CAP.	2200μF 16V M
C1608-09	QETM1EM-228	E CAP.	2200μF 25V M
C1613	NCF31AZ-105X	C CAP.	1μF 10V Z
C1614	QETN1CM-476Z	E CAP.	47μF 16V M
C1615	NCF31AZ-105X	C CAP.	1μF 10V Z
C1619	QETN1HM-226Z	E CAP.	22μF 50V M
C1620	QETN1HM-105Z	E CAP.	1.0μF 50V M
C1621	QETN1CM-107Z	E CAP.	100μF 16V M
C1623	QETN1HM-226Z	E CAP.	22μF 50V M
C1624	QETN1CM-107Z	E CAP.	100μF 16V M
C1625	QETN1HM-105Z	E CAP.	1.0μF 50V M
C1626	QETN1CM-476Z	E CAP.	47μF 16V M
C1627	QETN1EM-108Z	E CAP.	1000μF 25V M
C1636-37	NCB31CK-104X	C CAP.	0.1μF 16V K
C1638-39	QETN1CM-107Z	E CAP.	100μF 16V M
C1643	NCB21CK-184X	CHIP CAP.	0.18μF 16V K
C1651-54	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
C1660	NCB21CK-184X	CHIP CAP.	0.18μF 16V K
C1661-63	NCB31CK-104X	C CAP.	0.1μF 16V K
C1664-65	NCB31HK-222X	C CAP.	2200pF 50V K
C1666-67	NCF31AZ-105X	C CAP.	1μF 10V Z
C1671	QETN1CM-227Z	E CAP.	220μF 16V M
C1672	QETN1HM-226Z	E CAP.	22μF 50V M
C1673-74	NCF31AZ-105X	C CAP.	1μF 10V Z
C1678-79	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
C1680	NCF31AZ-105X	C CAP.	1μF 10V Z
C1681	NCB31HK-562X	CHIP CAP.	5600pF 50V K
C1682	NCB31EK-333X	CHIP CAP.	0.033μF 25V K
C1683	QETN1EM-476Z	E CAP.	47μF 25V M
C1684	NCB31HK-562X	CHIP CAP.	5600pF 50V K
C1685	NCB31EK-333X	CHIP CAP.	0.033μF 25V K
C1686	NCF31AZ-105X	C CAP.	1μF 10V Z
C1687	QETN1HM-106Z	E CAP.	10μF 50V M
C1688	QETN1EM-476Z	E CAP.	47μF 25V M
C1689-90	NCB31CK-104X	C CAP.	0.1μF 16V K
C1691-92	NCF31AZ-105X	C CAP.	1μF 10V Z
C1694	QETN1HM-106Z	E CAP.	10μF 50V M
C1699	NCB31HK-103X	C CAP.	0.01μF 50V K
C1701	QETN1CM-477Z	E CAP.	470μF 16V M

⚠	Symbol No.	Part No.	Part Name	Description
CAPACITOR				
	C1702	NCB31CK-563X	CHIP CAP.	0.056µF 16V K
	C1703-04	NCB31HK-103X	C CAP.	0.01µF 50V K
	C1705	NDC31HJ-680X	C CAP.	68pF 50V J
	C1731	QETN1CM-477Z	E CAP.	470µF 16V M
	C1732	NCB31CK-563X	CHIP CAP.	0.056µF 16V K
	C1733	NCB31HK-103X	C CAP.	0.01µF 50V K
	C1734-36	NCB31CK-104X	C CAP.	0.1µF 16V K
	C1737	NDC31HJ-561X	C CAP.	560pF 50V J
	C1738	NCB31CK-104X	C CAP.	0.1µF 16V K
	C1951	QETN1CM-477Z	E CAP.	470µF 16V M
	C1952-53	NCB31CK-104X	C CAP.	0.1µF 16V K
	C1954	QETN1AM-477Z	E CAP.	470µF 10V M
	C1955	QETN1AM-227Z	E CAP.	220µF 10V M
	C1956	QETN1AM-107Z	E CAP.	100µF 10V M
	C1957	NCB31CK-104X	C CAP.	0.1µF 16V K
	C1958	QEHR1CM-227Z	E CAP.	220µF 16V M
	C1959	QETN1CM-477Z	E CAP.	470µF 16V M
	C1960	QETN1CM-108Z	E CAP.	1000µF 16V M
	C1962-63	QEZ0256-128	E CAP.	1200µF 10V M
	C1964	QETN1CM-108Z	E CAP.	1000µF 16V M
	C1965	QETN1HM-105Z	E CAP.	1.0µF 50V M
	C1966-67	QEZ0256-128	E CAP.	1200µF 10V M
	C1968	QETN1CM-108Z	E CAP.	1000µF 16V M
COIL				
	L1001	QQL244K-270Z	PEAKING COIL	
	L1002-03	QQL244K-100Z	COIL	10µH K
	L1004	NQL092K-100X	COIL	10µH
	L1101	QRN143J-0R0X	C R	0.0Ω 1/4W J
	L1102	QQL244K-4R7Z	COIL	4.7µH K
	L1111	QQL244K-220Z	PEAKING COIL	
	L1112	QQL244K-180Z	COIL	18µH K
	L1301-02	NQL092K-1R5X	INDUCTOR	
	L1701	QQL244K-6R8Z	INDUCTOR	
	L1702	QQL244K-270Z	PEAKING COIL	
	L1951	QQL26AM-5R6Z	CHOKE COIL	
	L1952-53	QQL26AK-220Z	COIL	22µH K
	L1954	QQR1129-001	CHOKE COIL	
	L1955	QQLZ026-460	HEATER CHOKE	
	L1956	QQR1129-001	CHOKE COIL	
	L1957	QQLZ026-460	HEATER CHOKE	
	L1958	QQL26AK-220Z	COIL	22µH K
DIODE				
	D1312	MA3051/M/-X	ZENER DIODE	
	D1315	MA111-X	SI.DIODE	
	D1317-18	MA111-X	SI.DIODE	
	D1341-44	MA111-X	SI.DIODE	
	D1345	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	D1347	MA111-X	SI.DIODE	
	D1471-74	MA111-X	SI.DIODE	
	D1521	MA111-X	SI.DIODE	
	D1591	MA111-X	SI.DIODE	
	D1592	MA3051/M/-X	ZENER DIODE	
	D1593	MA111-X	SI.DIODE	
	D1602-04	MA111-X	SI.DIODE	
	D1608-10	MA111-X	SI.DIODE	
	D1611	MA3100/M/-X	ZENER DIODE	
	D1612	MA111-X	SI.DIODE	
	D1618	MA3051/M/-X	ZENER DIODE	
	D1622-25	MA3270/H/-X	ZENER DIODE	
	D1626-27	MA3150/M/-X	ZENER DIODE	
	D1771-74	MA3056/M/-X	ZENER DIODE	
	D1951	1SR153-400-T2	SI.DIODE	
	D1952	RK34-LFC4	SI.DIODE	
	D1953	MA111-X	SI.DIODE	
	D1954	RK34-LFC4	SI.DIODE	
	D1955	MA111-X	SI.DIODE	

⚠	Symbol No.	Part No.	Part Name	Description
DIODE				
	D1981-82	MA111-X	SI.DIODE	
TRANSISTOR				
	Q1101-02	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1301	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1341-42	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1343	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1471-72	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1591	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1592	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1601-02	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1608	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1609	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1610	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1613-14	DTC323TK-X	DIGI.TRANSISTOR	
	Q1951	2SC2412K/QR/-X	SI.TRANSISTOR	
IC				
	IC1101	MSP3415DQGB3GHX	I.C(MONO-ANA)	
	IC1301	SDA9380	I.C(M)	
	IC1402	BA10324AF-XE	I.C(MONO-ANA)	
	IC1471	UPC358G2-XE	I.C(MONO-ANA)	
	IC1602-03	TDA2052V	I.C(MONO-ANA)	
	IC1604	BA4558F-X	I.C(MONO-ANA)	
	IC1661	BD3869F-X	I.C(MONO-ANA)	
	IC1663	NJM2150AM-X	I.C(MONO-ANA)	
	IC1701	JLC1562BF-X	I.C(DIGI-MOS)	
	IC1731	JLC1562BF-X	I.C(DIGI-MOS)	
	IC1732	TC74HC4538AF-X	I.C(DIGI-MOS)	
	IC1733	TC7W74F-X	I.C(ECL-LOGIC)	
	IC1951	BA09T	I.C(MONO-ANA)	
	IC1952	BA08T	I.C(MONO-ANA)	
	IC1953	BA12T	I.C(MONO-ANA)	
	IC1954	SI-8050S	I.C(HYBRID)	
	IC1955	SI-8033S/F1	I.C(HYBRID)	
OTHERS				
	CN1015	QGB2501J1-10	RECEPTACLE	
	K1001	NQR0389-003X	FERRITE BEADS	
	K1101-02	NQR0389-003X	FERRITE BEADS	
	K1301	NQR0413-003X	BEADS CORE	
	K1951	QQR0621-002Z	BEADS CORE	
	K1952	QQR0621-002Z	BEADS CORE	
	LC1102	NQR0431-001X	EMI FILTER	
	LC1301-03	NQR0431-001X	EMI FILTER	
	TU1001	QAU0217-001	TUNER	
	X1101	CE42546-001Z	CRYSTAL	
	X1501	QAX0549-001Z	CRYSTAL	

POWER & DEF. P.W. BOARD ASS'Y (SMF-2201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R2204	QRE141J-272Y	C R	2.7kΩ 1/4W J
	R2205-06	QRE141J-182Y	C R	1.8kΩ 1/4W J
	R2402	QRE141J-222Y	C R	2.2kΩ 1/4W J
	R2403	QRE121J-180Y	C R	18Ω 1/2W J
	R2409	QRL02EJ-221X	OM R	220Ω 2W J
	R2410	QRT029J-R82	MF R	0.82Ω 2W J
	R2411	QRE121J-8R2Y	C R	8.2Ω 1/2W J
	R2412	QRE141J-472Y	C R	4.7kΩ 1/4W J
	R2416	QRE141J-333Y	C R	33kΩ 1/4W J
	R2418	QRE141J-222Y	C R	2.2kΩ 1/4W J
	R2420	QRE141J-101Y	C R	100Ω 1/4W J
	R2422	QRE141J-104Y	C R	100kΩ 1/4W J
	R2423	QRE141J-562Y	C R	5.6kΩ 1/4W J
	R2424	QRE141J-222Y	C R	2.2kΩ 1/4W J
	R2425	QRE141J-562Y	C R	5.6kΩ 1/4W J
	R2426	QRT01EJ-1R0X	MF R	1.0Ω 1W J
	R2427	QRE141J-103Y	C R	10kΩ 1/4W J
	R2428	QRE141J-472Y	C R	4.7kΩ 1/4W J
	R2430-32	QRE121J-101Y	C R	100Ω 1/2W J
	R2501	QRE141J-471Y	C R	470Ω 1/4W J
	R2502	QRE121J-123Y	C R	12kΩ 1/2W J
	R2503	QRE121J-152Y	C R	1.5kΩ 1/2W J
	R2504	QRL039J-392	OM R	3.9kΩ 3W J
	R2505	QRL039J-332	OM R	3.3kΩ 3W J
	R2506	QRE121J-5R6Y	C R	5.6Ω 1/2W J
	R2512	QRL029J-331	OM R	330Ω 2W J
	R2521	QRE141J-473Y	C R	47kΩ 1/4W J
	R2522	QRE141J-563Y	C R	56kΩ 1/4W J
	R2523	QRE141J-152Y	C R	1.5kΩ 1/4W J
	R2524	QRE141J-272Y	C R	2.7kΩ 1/4W J
	R2526	QRE141J-470Y	C R	47Ω 1/4W J
	R2531	QRL02EJ-102X	OM R	1kΩ 2W J
	R2532-33	QRL029J-820	OM R	82Ω 2W J
	R2534	QRE141J-102Y	C R	1kΩ 1/4W J
	R2535-36	QRE141J-470Y	C R	47Ω 1/4W J
	R2561	QRA14CF-6801Y	MF R	6.8kΩ 1/4W F
	R2562	QRA14CF-2701Y	MF R	2.7kΩ 1/4W F
	R2565	QRE141J-223Y	C R	22kΩ 1/4W J
	R2591	QRF154K-3R3	UNF R	3.3Ω 15W K
	R2701	QRL01EJ-220X	OM R	22Ω 1W J
	R2702	QRE121J-123Y	C R	12kΩ 1/2W J
	R2703	QRZ0056-103Z	COMP R	10kΩ 1/2W K
	R2901	QRF154K-1R8	UNF R	1.8Ω 15W K
	R2910	QRE121J-152Y	C R	1.5kΩ 1/2W J
	R2911	QRL039J-473	OM R	47kΩ 3W J
	R2912-13	QRT02EJ-R22X	MF R	0.22Ω 2W J
	R2914	QRK126J-681X	C R	680Ω 1/2W J
	R2916	QRT02EJ-R22X	MF R	0.22Ω 2W J
	R2917	QRK126J-332X	C R	3.3kΩ 1/2W J
	R2918	QRE121J-122Y	C R	1.2kΩ 1/2W J
	R2920-21	QRL039J-823	OM R	82kΩ 3W J
	R2941	QRL039J-333	OM R	33kΩ 3W J
	R2944	QRE121J-222Y	C R	2.2kΩ 1/2W J
	R2951	QRE141J-473Y	C R	47kΩ 1/4W J
	R2952	QRE141J-332Y	C R	3.3kΩ 1/4W J
	R2957	QRE141J-153Y	C R	15kΩ 1/4W J
	R2958	QRE141J-102Y	C R	1kΩ 1/4W J
	R2972	QRA14CF-5600Y	MF R	560Ω 1/4W F
	R2973	QRE121J-392Y	C R	3.9kΩ 1/2W J
	R2975	QRE121J-223Y	C R	22kΩ 1/2W J
	R2977	QRE141J-473Y	C R	47kΩ 1/4W J
	R2978	QRE141J-333Y	C R	33kΩ 1/4W J
	R2990-91	QRE121J-394Y	C R	390kΩ 1/2W J
	R2992	QRE141J-273Y	C R	27kΩ 1/4W J

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
⚠	R2999	QRZ0057-825	C R	8.2MΩ 1W J
	CAPACITOR			
	C2201	QFV71HJ-334Z	MF CAP.	0.33µF 50V J
	C2401	QETN1VM-108Z	E CAP.	1000µF 35V M
	C2404	QFLC2AJ-104Z	M CAP.	0.1µF 100V J
	C2405	QFV71HJ-104Z	MF CAP.	0.1µF 50V J
	C2406	QETN1VM-107Z	E CAP.	100µF 35V M
	C2408	QFLC2AJ-104Z	M CAP.	0.1µF 100V J
	C2410	QETN1HM-106Z	E CAP.	10µF 50V M
	C2411	QCB31HK-222Z	C CAP.	2200pF 50V K
	C2414-15	QFV71HJ-474Z	MF CAP.	0.47µF 50V J
	C2416	QCB31HK-682Z	C CAP.	6800pF 50V K
	C2417	QETN1VM-107Z	E CAP.	100µF 35V M
	C2501	QCB32HK-331Z	C CAP.	330pF 500V K
	C2503	QFV71HJ-224Z	MF CAP.	0.22µF 50V J
⚠	C2506	QFZ0122-472	MPP CAP.	4700pF1.8kVH±3%
⚠	C2507	QFZ0122-512	MPP CAP.	5100pF1.8kVH±3%
	C2508	QFP32JJ-123	PP CAP.	0.012µF 630V J
⚠	C2509	QFZ0128-154	MPP CAP.	0.15µF 400V±3%
⚠	C2510	QFZ0197-154	MPP CAP.	0.15µF 250V J
⚠	C2511	QFZ0128-254	MPP CAP.	0.25µF 400V±3%
	C2513	QEZ0414-226	E CAP.	22µF 50V M
	C2521-22	QCZ0122-681	C CAP.	680pF 2kV K
	C2523	QFLC2AJ-682Z	M CAP.	6800pF 100V J
	C2525	QCB31HK-682Z	C CAP.	6800pF 50V K
	C2562	QETN1HM-475Z	E CAP.	4.7µF 50V M
	C2591	QEZ0203-107	E CAP.	100µF 160V M
	C2701	QFLC2AJ-123Z	M CAP.	0.012µF 100V J
	C2801-02	QETN1EM-108Z	E CAP.	1000µF 25V M
	C2803	QETM2EM-106	E CAP.	10µF 250V M
	C2811	QETN1VM-107Z	E CAP.	100µF 35V M
⚠	C2901	QFZ9075-104	MPP CAP.	0.1µFAC275V M
⚠	C2902	QFZ9075-473	MPP CAP.	0.047µFAC275V M
⚠	C2906	QCZ9015-472Z	C CAP.	4700pFAC250V Z
	C2907	QEZ0577-477	E.CAP.	470µF 400V M
⚠	C2908	QCZ9015-472Z	C CAP.	4700pFAC250V Z
	C2912	QCZ0340-561	C CAP.	560pF 2kV K
	C2913	QFLC1HJ-471Z	M CAP.	470pF 50V J
	C2914	QETN1HM-476Z	E CAP.	47µF 50V M
	C2916	QCB31HK-272Z	C CAP.	2700pF 50V K
	C2918	QCB31HK-332Z	C CAP.	3300pF 50V K
	C2919	QFP32GJ-103Z	PP CAP.	0.01µF 400V J
	C2921	QCZ0340-391	C CAP.	390pF 2kV K
	C2930	QFV71HJ-684Z	MF CAP.	0.68µF 50V J
	C2931	QEZ0203-227	E CAP.	220µF 160V M
	C2932	QETN1EM-108Z	E CAP.	1000µF 25V M
	C2934	QTMM1EM-228	E CAP.	2200µF 25V M
	C2935	QETM1EM-338	E CAP.	3300µF 25V M
	C2937	QCZ0131-821	C CAP.	820pF 2kV K
	C2942	QETN1HM-105Z	E CAP.	1.0µF 50V M
	C2945	QETM1EM-338	E CAP.	3300µF 25V M
	C2971	QETN1CM-107Z	E CAP.	100µF 16V M
	C2972	QETN1EM-476Z	E CAP.	47µF 25V M
⚠	C2993	QCZ9079-222	C CAP.	2200pFAC250V M
⚠	C2994	QCZ9079-222	C CAP.	2200pFAC250V M
⚠	C2997	QCZ9079-222	C CAP.	2200pFAC250V M
⚠	C2998	QCZ9079-222	C CAP.	2200pFAC250V M
	TRANSFORMER			
	T2501	QQR1111-001	DRIVE TRANSF	
⚠	T2502	QQH0113-002	FBT	
	T2701	QQR1096-001	DEF.TRANSF	
⚠	T2921	QQS0131-001	SWITCH.TRANSF.	

⚠	Symbol No.	Part No.	Part Name	Description
	COIL			
	L2501	QQLZ025-180	CHOKE COIL	
	L2502	QQR1230-001	CHOKE COIL	
	L2504	QQR0915-003	LINEARITY COIL	
	L2531	QQL43AJ-222	COIL	2.2mH J
	L2701	QQL43AJ-222	COIL	2.2mH J
	L2801	QQLZ026-140	HEATER CHOKE	
	L2931	QQL26AK-470Z	COIL	47µH K
	L2934	QQLZ018-220	HEATER CHOKE	
	L2936	QQL26AK-220Z	COIL	22µH K
	DIODE			
	D2201	1SR35-400A-T2	SI.DIODE	
	D2202	MTZJ3.9B-T2	ZENER DIODE	
	D2401	MTZJ75-T2	ZENER DIODE	
	D2402	1SR35-400A-T2	SI.DIODE	
	D2405	1SS133-T2	SI.DIODE	
	D2406	MTZJ6.8C-T2	ZENER DIODE	
	D2407	1SR35-400A-T2	SI.DIODE	
	D2408	1SS133-T2	SI.DIODE	
	D2501	1SS81-T5	SI.DIODE	
	D2504	RG2A-LFC4	SI.DIODE	
	D2505	V11CA-C1	SI.DIODE	
	D2506	FMV-3FU-F1	SI.DIODE	
	D2521	MTZJ22B-T2	ZENER DIODE	
	D2522	1SS81-T5	SI.DIODE	
	D2531	RGP10J-5025-T3	SI.DIODE	
	D2561	MTZJ7.5S-T2	ZENER DIODE	
	D2581	1SS133-T2	SI.DIODE	
	D2582	1SS133-T2	SI.DIODE	
	D2801	EU2-T3	SI.DIODE	
	D2802	EU2-T3	SI.DIODE	
	D2803	RU3OA-F1	SI.DIODE	
	D2811	1SR124-400A-T2	SI.DIODE	
⚠	D2901	RBV-606	SI.DIODE	
	D2910	MA700A-T2	SI.DIODE	
	D2912	AU01Z-T2	SI.DIODE	
	D2914	1SS133-T2	SI.DIODE	
	D2915	RG1C-LFA1	SI.DIODE	
	D2917	MTZJ27B-T2	ZENER DIODE	
	D2918	MTZJ5.1B-T2	ZENER DIODE	
	D2920	1SS133-T2	SI.DIODE	
	D2931	RU4B-F1	SI.DIODE	
	D2932	RU3OA-F1	SI.DIODE	
	D2933	1SR35-400A-T2	SI.DIODE	
	D2934	RU4B-F1	SI.DIODE	
	D2935	FMB-G19L	DIODE	
	D2936	FMX-G12S	SI.DIODE	
	D2938	FMB-G19L	DIODE	
	D2941	MTZJ33B-T2	ZENER DIODE	
	D2952	1SS133-T2	SI.DIODE	
	D2955	1SS133-T2	SI.DIODE	
	D2972	MTZJ15B-T2	ZENER DIODE	
	D2973	1SS133-T2	SI.DIODE	
	D2975	MTZJ6.8C-T2	ZENER DIODE	
	TRANSISTOR			
	Q2401-02	2SC3311A/QR/-T	SI.TRANSISTOR	
	Q2501	BSN304-T	F.E.T.	
⚠	Q2503	2SC5521	TRANSISTOR	H.OUT
	Q2531	IRFI620G	F.E.T.	
	Q2532	2SC1959/Y/-T	SI.TRANSISTOR	
	Q2533	2SA562TM/Y/-T	SI.TRANSISTOR	
	Q2581	2SC3311A/QR/-T	SI.TRANSISTOR	
	Q2951	2SC1627A/Y/-T	SI.TRANSISTOR	

⚠	Symbol No.	Part No.	Part Name	Description
	TRANSISTOR			
	Q2971	2SA1208/ST/Z1-T	SI.TRANSISTOR	
	IC			
	IC2401	LA7876NZ	I.C(MONO-ANA)	
	IC2911	STR-F6658B/F7	I.C(HYBRID)	
	IC2921	SE140N	I.C(HYBRID)	
	OTHERS			
	CN2004-06	QGB1506M1-16	CONNECTOR	
	CN2010	QGB1505J1-35	RECEPTACLE	
⚠	CP2935	ICP-N50-Y	I.C.PROTECT	
⚠	F2905	QMFZ043-5ROZ-J1	FUSE	5.0A
⚠	F2931	QMFZ034-4ROZ-J1	FUSE	4.0A
⚠	F2933	QMFZ034-4ROZ-J1	FUSE	4.0A
⚠	FR2801	QRZ9011-1R0	F R	1.0 Ω 1/2W J
⚠	FR2802	QRZ9011-1R0	F R	1.0 Ω 1/2W J
⚠	FR2803	QRZ9009-1R5	F R	1.5 Ω 1/2W J
⚠	FR2811	QRZ9011-4R7	F R	4.7 Ω 1/2W J
⚠	FR2915	QRZ9017-4R7	F R	4.7 Ω 1/4W J
	K2401	QQR0621-002Z	BEADS CORE	
	K2504-05	QQR0679-001	FERRITE BEADS	
	K2932	QQR0621-002Z	BEADS CORE	
	K2934	QQR0621-002Z	BEADS CORE	
⚠	LF2901	QQR0972-003	LINE FILTER	
⚠	PC2921	PC123F2	I.C(PH.COUPLER)	
⚠	RY2951	QSK0090-001	RELAY	

R CRT SOCKET P.W. BOARD ASS'Y (SMF-3201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R3005	QRE121J-105Y	C R	1MΩ 1/2W J
	R3101	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R3102	NRSA63J-0ROX	MG R	0.0Ω 1/16W J
	R3103	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R3104	QRL029J-104-F	OM R	100kΩ 2W J
	R3106	NRSA63J-151X	MG R	150Ω 1/16W J
	R3107	NRSA63J-103X	MG R	10kΩ 1/16W J
	R3110	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	CAPACITOR			
	C3006	QFZ9027-472	MM.CAP.	4700pFAC125V K
	C3007	QETN2EM-106Z	E CAP.	10µF 250V M
	C3101	QETN1HM-106Z	E CAP.	10µF 50V M
	C3102	NCB31HK-103X	C CAP.	0.01µF 50V K
	C3103	QETN1EM-476Z	E CAP.	47µF 25V M
	C3105	NDC31HJ-100X	C CAP.	10pF 50V J
	C3106	QFK62EK-104Z	MM CAP.	0.1µF 250V K
	C3107	NDC31HJ-561X	C CAP.	560pF 50V J
	C3108	NRSA63J-0ROX	MG R	0.0Ω 1/16W J
	COIL			
	L3002	QQL26AJ-102Z	COIL	1mH J
	L3101	QQL244K-5R6Z	COIL	5.6µH K
	L3102	QQL244K-4R7Z	COIL	4.7µH K
	DIODE			
	D3001	RM2C-LFA1	SI.DIODE	
	D3101	EU01N-T2	SI.DIODE	
	D3102	1SR124-400A-T2	SI.DIODE	
	IC			
	IC3101	TDA6111Q	I.C(MONO-ANA)	
	OTHERS			
	SG3001	QAF0056-501Z	VARISTOR	
⚠	SK3001	CE42535-001	C.R.T.SOCKET	

G CRT SOCKET P.W. BOARD ASS'Y (SMF-3202A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R3001	NRVA63D-272X	MF R	2.7kΩ 1/16W±0.5%
	R3002	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R3003	NRVA63D-122X	MF R	1.2kΩ 1/16W±0.5%
	R3005	QRE121J-105Y	C R	1MΩ 1/2W J
	R3101	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R3102	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R3103	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R3104	QRL029J-104-F	OM R	100kΩ 2W J
	R3106	NRSA63J-151X	MG R	150Ω 1/16W J
	R3107	NRSA63J-103X	MG R	10kΩ 1/16W J
	R3110	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	CAPACITOR			
⚠	C3001	QETM2EM-336	E CAP.	33μF 250V M
	C3002	QETN2EM-106Z	E CAP.	10μF 250V M
	C3003	QFLC1HJ-223Z	M CAP.	0.022μF 50V J
	C3006	QFZ9027-472	MM CAP.	4700pFAC125V K
	C3007	QETN2EM-106Z	E CAP.	10μF 250V M
	C3101	QETN1HM-106Z	E CAP.	10μF 50V M
	C3102	NCB31HK-103X	C CAP.	0.01μF 50V K
	C3103	QETN1EM-476Z	E CAP.	47μF 25V M
	C3105	NDC31HJ-100X	C CAP.	10pF 50V J
	C3106	QFK62EK-104Z	MM CAP.	0.1μF 250V K
	C3107	NDC31HJ-561X	C CAP.	560pF 50V J
	C3108	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	COIL			
	L3001-02	QQL26AJ-102Z	COIL	1mH J
	L3101	QQL244K-5R6Z	COIL	5.6μH K
	L3102	QQL244K-4R7Z	COIL	4.7μH K
	DIODE			
	D3001	RM2C-LFA1	SI.DIODE	
	D3101	EU01N-T2	SI.DIODE	
	D3102	1SR124-400A-T2	SI.DIODE	
	IC			
	IC3101	TDA6111Q	I.C(MONO-ANA)	
	OTHERS			
	SG3001	QAF0056-501Z	VARISTOR	
⚠	SK3001	CE42535-001	C.R.T.SOCKET	

B CRT SOCKET P.W. BOARD ASS'Y (SMF-3203A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R3005	QRE121J-105Y	C R	1MΩ 1/2W J
	R3031	NRVA63D-153X	MF R	15kΩ 1/16W±0.5%
	R3032	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R3101	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R3102	NRSA63J-102X	MG R	1kΩ 1/16W J
	R3103	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R3104	QRL029J-104-F	OM R	100kΩ 2W J
	R3105	NRSA63J-392X	MG R	3.9kΩ 1/16W J
	R3106	NRSA63J-151X	MG R	150Ω 1/16W J
	R3107	NRSA63J-103X	MG R	10kΩ 1/16W J
	R3110	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	CAPACITOR			
	C3006	QFZ9027-472	MM CAP.	4700pFAC125V K
	C3007	QETN2EM-106Z	E CAP.	10μF 250V M
	C3101	QETN1HM-106Z	E CAP.	10μF 50V M
	C3102	NCB31HK-103X	C CAP.	0.01μF 50V K
	C3103	QETN1EM-476Z	E CAP.	47μF 25V M
	C3105	NDC31HJ-100X	C CAP.	10pF 50V J
	C3106	QFK62EK-104Z	MM CAP.	0.1μF 250V K
	C3107	NDC31HJ-561X	C CAP.	560pF 50V J
	C3108	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	COIL			
	L3002	QQL26AJ-102Z	COIL	1mH J
	L3101	QQL244K-5R6Z	COIL	5.6μH K
	L3102	QQL244K-4R7Z	COIL	4.7μH K
	DIODE			
	D3001	RM2C-LFA1	SI.DIODE	
	D3101	EU01N-T2	SI.DIODE	
	D3102	1SR124-400A-T2	SI.DIODE	
	D3103	MA111-X	SI.DIODE	
	TRANSISTOR			
	Q3031	2SA1037AK/QR/-X	SI.TRANSISTOR	
	IC			
	IC3101	TDA6111Q	I.C(MONO-ANA)	
	OTHERS			
	SG3001	QAF0056-501Z	VARISTOR	
⚠	SK3001	CE42535-001	C.R.T.SOCKET	

CONVERGENCE P.W. BOARD ASS'Y (SMF-5201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R5801-08	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R5809	QRE121J-471Y	C R	470Ω 1/2W J
	R5810	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R5812-13	NRSA63J-102X	MG R	1kΩ 1/16W J
	R5817	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R5818	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R5826	NRSA63J-473X	MG R	47kΩ 1/16W J
	R5827	NRSA63J-103X	MG R	10kΩ 1/16W J
	R5828-30	NRSA63J-101X	MG R	100Ω 1/16W J
	R5831-33	NRSA63J-102X	MG R	1kΩ 1/16W J
	R5834-39	NRSA63J-473X	MG R	47kΩ 1/16W J
	R5840	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5842	QRX01GJ-3R3	MF R	3.3Ω 1W J
	R5843	QRL029J-221	OM R	220Ω 2W J
	R5844	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5846	QRX01GJ-1R5	MF R	1.5Ω 1W J
	R5847	QRL029J-151	OM R	150Ω 2W J
	R5848	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5850	QRX01GJ-2R2	MF R	2.2Ω 1W J
	R5851	QRL029J-221	OM R	220Ω 2W J
	R5852	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5854	QRX01GJ-1R5	MF R	1.5Ω 1W J
	R5855	QRL029J-151	OM R	150Ω 2W J
	R5856	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5858	QRX01GJ-3R3	MF R	3.3Ω 1W J
	R5859	QRL029J-221	OM R	220Ω 2W J
	R5860	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5862	QRX01GJ-1R8	MF R	1.8Ω 1W J
	R5863	QRL029J-151	OM R	150Ω 2W J
	R5864	NRSA63J-183X	MG R	18kΩ 1/16W J
	R5866	NRSA63J-103X	MG R	10kΩ 1/16W J
	R5867	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R5868	NRSA63J-391X	MG R	390Ω 1/16W J
	R5892	NRSA63J-102X	MG R	1kΩ 1/16W J
	CAPACITOR			
	C5801-03	QETN1CM-107Z	E CAP.	100µF 16V M
	C5804	NCB31EK-104X	C CAP.	0.1µF 25V K
	C5805	QETN1CM-107Z	E CAP.	100µF 16V M
	C5806	NCB31EK-104X	C CAP.	0.1µF 25V K
	C5807	QETN1CM-107Z	E CAP.	100µF 16V M
	C5808-09	NCB31EK-104X	C CAP.	0.1µF 25V K
	C5810	QETN1CM-107Z	E CAP.	100µF 16V M
	C5813-14	NCB31EK-104X	C CAP.	0.1µF 25V K
	C5815	NCB31HK-102X	C CAP.	1000pF 50V K
	C5818-19	NCB31HK-103X	C CAP.	0.01µF 50V K
	C5820-25	NDC31HJ-151X	C CAP.	150pF 50V J
	C5827-28	QETN1HM-477Z	E CAP.	470µF 50V M
	C5829-34	NDC31HJ-151X	C CAP.	150pF 50V J
	C5838	NCB31EK-104X	C CAP.	0.1µF 25V K
	C5843	NCB31HK-103X	C CAP.	0.01µF 50V K
	COIL			
	L5801	QQL26AK-220Z	COIL	22µH K
	DIODE			
	D5804-05	1SR153-400-T2	SI.DIODE	
	D5816-27	RD33E/B2/-T2	ZENER DIODE	
	D5828	MA111-X	SI.DIODE	
	D5841-43	PTZ6.8B-X	ZENER DIODE	

⚠	Symbol No.	Part No.	Part Name	Description
	TRANSISTOR			
	Q5801	2SC3852A	SI.TRANSISTOR	
	Q5802-03	2SA673/C/-T	SI.TRANSISTOR	
	Q5806-10	2SD601A/QR/-X	SI.TRANSISTOR	
	IC			
	IC5801	BA17805T	I.C(MONO-ANA)	
	IC5803	BA17805T	I.C(MONO-ANA)	
	IC5804-05	STK392-110	I.C(HYBRID)	
	OTHERS			
	K5801	QQR0621-002Z	BEADS CORE	
	K5802	QQR0621-002Z	BEADS CORE	
	K5803	QQR0621-002Z	BEADS CORE	
	K5804	QQR0621-002Z	BEADS CORE	
	K5805	QQR0621-002Z	BEADS CORE	
	K5806	QQR0621-002Z	BEADS CORE	
	K5807	QQR0621-002Z	BEADS CORE	
	K5808	QQR0621-002Z	BEADS CORE	
	K5809	QQR0621-002Z	BEADS CORE	
	K5810	QQR0621-002Z	BEADS CORE	
	K5811	QQR0621-002Z	BEADS CORE	
	MD5001	QAL0383-002	DIGICON MODULE	
	S5801	QSW0619-003Z	PUSH SWITCH	SERVICE SW

R VM P.W. BOARD ASS'Y (SMF-7201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R7101	NRSA63J-123X	MG R	12kΩ 1/16W J
	R7102	NRSA63J-681X	MG R	680Ω 1/16W J
	R7103	NRSA63J-101X	MG R	100Ω 1/16W J
	R7104	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R7105	NRSA63J-102X	MG R	1kΩ 1/16W J
	R7106	NRSA63J-221X	MG R	220Ω 1/16W J
	R7107	NRSA63J-561X	MG R	560Ω 1/16W J
	R7109	NRSA63J-153X	MG R	15kΩ 1/16W J
	R7110	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R7111	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7112	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R7113	NRSA63J-331X	MG R	330Ω 1/16W J
	R7114	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R7115	NRSA63J-470X	MG R	47Ω 1/16W J
	R7116	QRG01GJ-101	OM R	100Ω 1W J
	R7117	NRSA63J-271X	MG R	270Ω 1/16W J
	R7122	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7123	QRE121J-563Y	C R	56kΩ 1/2W J
	R7124	NRSA63J-470X	MG R	47Ω 1/16W J
	R7125	QRE121J-563Y	C R	56kΩ 1/2W J
	R7126	NRSA63J-470X	MG R	47Ω 1/16W J
	R7127	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7128	NRSA63J-390X	MG R	39Ω 1/16W J
	R7129-30	QRE121J-2R7Y	C R	2.7Ω 1/2W J
	R7131	NRSA63J-390X	MG R	39Ω 1/16W J
	R7132	NRSA63J-121X	MG R	120Ω 1/16W J
	R7133	QRL029J-681	OM R	680Ω 2W J
⚠	R7134	QRZ9021-561	F R	560 Ω 1W J
	R7141	NRSA63J-820X	MG R	82Ω 1/16W J
	CAPACITOR			
	C7102	NDC31HJ-5R0X	C CAP.	5.0pF 50V J
	C7103	NDC31HJ-151X	C CAP.	150pF 50V J
	C7104	QCB31HK-103Z	C CAP.	0.01μF 50V K
	C7106	QETN1HM-335Z	E CAP.	3.3μF 50V M
	C7107	QETN1CM-107Z	E CAP.	100μF 16V M
	C7110	QETN2CM-106Z	E CAP.	10μF 160V M
	C7111	QCB32HK-472Z	C CAP.	4700pF 500V K
	C7113	QETN2CM-106Z	E CAP.	10μF 160V M
	C7114	QCB32HK-472Z	C CAP.	4700pF 500V K
	C7116-17	QETN1AM-107Z	E CAP.	100μF 10V M
	C7118	QETN1AM-337Z	E CAP.	330μF 10V M
	C7120	NDC31HJ-821X	C CAP.	820pF 50V J
	C7121	NDC31HJ-221X	C CAP.	220pF 50V J
	C7124	QENC1CM-106Z	BP E CAP.	10μF 16V M
	COIL			
	L7101	QQL244K-5R6Z	COIL	5.6μH K
	DIODE			
	D7101	MA111-X	SI.DIODE	
	D7102	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	D7103	RH1S-T3	SI.DIODE	
	D7104	RH1S-T3	SI.DIODE	
	TRANSISTOR			
	Q7101	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q7102	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q7103	2SC1906-T	SI.TRANSISTOR	
	Q7104	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q7105	2SC1627A/OY/-T	SI.TRANSISTOR	
	Q7108	2SA1837	SI.TRANSISTOR	
	Q7109	2SC4793	SI.TRANSISTOR	
	OTHERS			
	K7101	CE41492-001Z	CHOKE COIL	
	K7103-04	CE41492-001Z	CHOKE COIL	

G VM P.W. BOARD ASS'Y (SMF-7202A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R7101	NRSA63J-123X	MG R	12kΩ 1/16W J
	R7102	NRSA63J-681X	MG R	680Ω 1/16W J
	R7103	NRSA63J-101X	MG R	100Ω 1/16W J
	R7104	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R7105	NRSA63J-102X	MG R	1kΩ 1/16W J
	R7106	NRSA63J-221X	MG R	220Ω 1/16W J
	R7107	NRSA63J-561X	MG R	560Ω 1/16W J
	R7109	NRSA63J-153X	MG R	15kΩ 1/16W J
	R7110	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R7111	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7112	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R7113	NRSA63J-331X	MG R	330Ω 1/16W J
	R7114	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R7115	NRSA63J-470X	MG R	47Ω 1/16W J
	R7116	QRG01GJ-101	OM R	100Ω 1W J
	R7117	NRSA63J-271X	MG R	270Ω 1/16W J
	R7122	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7123	QRE121J-563Y	C R	56kΩ 1/2W J
	R7124	NRSA63J-470X	MG R	47Ω 1/16W J
	R7125	QRE121J-563Y	C R	56kΩ 1/2W J
	R7126	NRSA63J-470X	MG R	47Ω 1/16W J
	R7127	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7128	NRSA63J-390X	MG R	39Ω 1/16W J
	R7129-30	QRE121J-2R7Y	C R	2.7Ω 1/2W J
	R7131	NRSA63J-390X	MG R	39Ω 1/16W J
	R7132	NRSA63J-121X	MG R	120Ω 1/16W J
	R7133	QRL029J-681	OM R	680Ω 2W J
⚠	R7134	QRZ9021-561	F R	560 Ω 1W J
	R7141	NRSA63J-820X	MG R	82Ω 1/16W J
	CAPACITOR			
	C7102	NDC31HJ-5R0X	C CAP.	5.0pF 50V J
	C7103	NDC31HJ-151X	C CAP.	150pF 50V J
	C7104	QCB31HK-103Z	C CAP.	0.01μF 50V K
	C7106	QETN1HM-335Z	E CAP.	3.3μF 50V M
	C7107	QETN1CM-107Z	E CAP.	100μF 16V M
	C7110	QETN2CM-106Z	E CAP.	10μF 160V M
	C7111	QCB32HK-472Z	C CAP.	4700pF 500V K
	C7113	QETN2CM-106Z	E CAP.	10μF 160V M
	C7114	QCB32HK-472Z	C CAP.	4700pF 500V K
	C7116-17	QETN1AM-107Z	E CAP.	100μF 10V M
	C7118	QETN1AM-337Z	E CAP.	330μF 10V M
	C7120	NDC31HJ-821X	C CAP.	820pF 50V J
	C7121	NDC31HJ-221X	C CAP.	220pF 50V J
	C7124	QENC1CM-106Z	BP E CAP.	10μF 16V M
	COIL			
	L7101	QQL244K-5R6Z	COIL	5.6μH K
	DIODE			
	D7101	MA111-X	SI.DIODE	
	D7102	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	D7103	RH1S-T3	SI.DIODE	
	D7104	RH1S-T3	SI.DIODE	
	TRANSISTOR			
	Q7101	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q7102	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q7103	2SC1906-T	SI.TRANSISTOR	
	Q7104	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q7105	2SC1627A/OY/-T	SI.TRANSISTOR	
	Q7108	2SA1837	SI.TRANSISTOR	
	Q7109	2SC4793	SI.TRANSISTOR	
	OTHERS			
	K7101	CE41492-001Z	CHOKE COIL	
	K7103-04	CE41492-001Z	CHOKE COIL	

B VM P.W. BOARD ASS'Y (SMF-7203A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R7101	NRSA63J-123X	MG R	12kΩ 1/16W J
	R7102	NRSA63J-681X	MG R	680Ω 1/16W J
	R7103	NRSA63J-101X	MG R	100Ω 1/16W J
	R7104	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R7105	NRSA63J-102X	MG R	1kΩ 1/16W J
	R7106	NRSA63J-221X	MG R	220Ω 1/16W J
	R7107	NRSA63J-561X	MG R	560Ω 1/16W J
	R7109	NRSA63J-153X	MG R	15kΩ 1/16W J
	R7110	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R7111	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7112	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R7113	NRSA63J-331X	MG R	330Ω 1/16W J
	R7114	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R7115	NRSA63J-470X	MG R	47Ω 1/16W J
	R7116	QRG01GJ-101	OM R	100Ω 1W J
	R7117	NRSA63J-271X	MG R	270Ω 1/16W J
	R7122	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7123	QRE121J-563Y	C R	56kΩ 1/2W J
	R7124	NRSA63J-470X	MG R	47Ω 1/16W J
	R7125	QRE121J-563Y	C R	56kΩ 1/2W J
	R7126	NRSA63J-470X	MG R	47Ω 1/16W J
	R7127	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R7128	NRSA63J-390X	MG R	39Ω 1/16W J
	R7129-30	QRE121J-2R7Y	C R	2.7Ω 1/2W J
	R7131	NRSA63J-390X	MG R	39Ω 1/16W J
	R7132	NRSA63J-121X	MG R	120Ω 1/16W J
	R7133	QRL029J-681	OM R	680Ω 2W J
⚠	R7134	QRZ9021-561	F R	560 Ω 1W J
	R7141	NRSA63J-820X	MG R	82Ω 1/16W J
	CAPACITOR			
	C7102	NDC31HJ-5R0X	C CAP.	5.0pF 50V J
	C7103	NDC31HJ-151X	C CAP.	150pF 50V J
	C7104	QCB31HK-103Z	C CAP.	0.01µF 50V K
	C7106	QETN1HM-335Z	E CAP.	3.3µF 50V M
	C7107	QETN1CM-107Z	E CAP.	100µF 16V M
	C7110	QETN2CM-106Z	E CAP.	10µF 160V M
	C7111	QCB32HK-472Z	C CAP.	4700pF 500V K
	C7113	QETN2CM-106Z	E CAP.	10µF 160V M
	C7114	QCB32HK-472Z	C CAP.	4700pF 500V K
	C7116-17	QETN1AM-107Z	E CAP.	100µF 10V M
	C7118	QETN1AM-337Z	E CAP.	330µF 10V M
	C7120	NDC31HJ-821X	C CAP.	820pF 50V J
	C7121	NDC31HJ-221X	C CAP.	220pF 50V J
	C7124	QENC1CM-106Z	BP E CAP.	10µF 16V M
	COIL			
	L7101	QQL244K-5R6Z	COIL	5.6µH K
	DIODE			
	D7101	MA111-X	SI.DIODE	
	D7102	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	D7103	RH1S-T3	SI.DIODE	
	D7104	RH1S-T3	SI.DIODE	
	TRANSISTOR			
	Q7101	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q7102	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q7103	2SC1906-T	SI.TRANSISTOR	
	Q7104	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q7105	2SC1627A/OY/-T	SI.TRANSISTOR	
	Q7108	2SA1837	SI.TRANSISTOR	
	Q7109	2SC4793	SI.TRANSISTOR	
	OTHERS			
	K7101	CE41492-001Z	CHOKE COIL	
	K7103-04	CE41492-001Z	CHOKE COIL	

FRONT CTRL P.W. BOARD ASS'Y (SMF-8201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R8001-02	QRE121J-101Y	C R	100Ω 1/2W J
	R8007	NRSA63J-103X	MG R	10kΩ 1/16W J
	R8010	NRSA63J-103X	MG R	10kΩ 1/16W J
	R8012-13	NRSA63J-103X	MG R	10kΩ 1/16W J
	R8021-22	NRSA63J-102X	MG R	1kΩ 1/16W J
	R8035	QRE121J-151Y	C R	150Ω 1/2W J
	R8036	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R8037	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R8038	NRSA63J-473X	MG R	47kΩ 1/16W J
	R8039	NRSA63J-103X	MG R	10kΩ 1/16W J
	CAPACITOR			
	C8001-02	NCB31HK-103X	C CAP.	0.01µF 50V K
	C8010-11	NCB31HK-472X	C CAP.	4700pF 50V K
	C8019	QETN1CM-107Z	E CAP.	100µF 16V M
	COIL			
	L8001-02	QQL244K-5R6Z	COIL	5.6µH K
	DIODE			
	D8001-06	MA111-X	SI.DIODE	
	D8018	MA3033-X	ZENER DIODE	
	TRANSISTOR			
	Q8008	DTC124EKA-X	DIGI.TRANSISTOR	
	IC			
⚠	IC8001	PC123F2	I.C(PH.COUPLER)	
	OTHERS			
	J8001	QMS3001-C01	3.5 JACK	
	J8003	QNZ0438-001	JACK	
	LC8002	NQR0169-001X	EMI FILTER	
	S8001	QSW0619-003Z	PUSH SWITCH	MENU
	S8002	QSW0619-003Z	PUSH SWITCH	CH DOWN
	S8003	QSW0619-003Z	PUSH SWITCH	CH UP
	S8004	QSW0619-003Z	PUSH SWITCH	VOL_DN
	S8005	QSW0619-003Z	PUSH SWITCH	VOL_UP
	S8006	QSW0619-003Z	PUSH SWITCH	TV/VIDEO

REMOCON SENSOR P.W. BOARD ASS'Y (SMF-8221A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R8001	NRSA63J-102X	MG R	1kΩ 1/16W J
	CAPACITOR			
	C8001	NCB31CK-104X	C CAP.	0.1µF 16V K
	C8002	QETN1EM-476Z	E CAP.	47µF 25V M
	DIODE			
	D8001	MA3068/M/-X	ZENER DIODE	
	IC			
	IC8001	GP1U281Q	IFR DETECT UNIT	

POWER SW P.W. BOARD ASS'Y (SMF-8901A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R8001-02	NRSA63J-331X	MG R	330Ω 1/16W J
	R8003	NRSA63J-221X	MG R	220Ω 1/16W J
	DIODE			
	D8001	SLR-342YY-T16	L.E.D.(YLW)	
	D8002	SPR-39MVWF	L.E.D.	
	D8003	MA111-X	SI.DIODE	
	TRANSISTOR			
	Q8001-02	DTC124EKA-X	DIGI.TRANSISTOR	
	Q8003-04	DTA124EKA-X	DIGI.TRANSISTOR	
	OTHERS			
		LC30114-001C-H	L.E.D.HOLDER	
⚠	S8901	QSW075O-001	PUSH SWITCH	MAIN POWER

CONVERGENCE POWER P.W. BOARD ASS'Y (SMF-9501A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R9901	QRF074K-4R7	UNF R	4.7Ω 7W K
	R9911	QRE121J-564Y	C R	560kΩ 1/2W J
	R9912	QRE121J-333Y	C R	33kΩ 1/2W J
	R9913	QRL039J-563	OM R	56kΩ 3W J
	R9914	QRL039J-333	OM R	33kΩ 3W J
	R9915	QRE121J-681Y	C R	680Ω 1/2W J
	R9916	QRT029J-1R2	MF R	1.2Ω 2W J
	R9917	QRM059J-R22	MP R	0.22Ω 5W J
	R9922	NRSA63J-122X	MG R	1.2kΩ 1/16W J
	R9923	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R9924	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R9951	NRSA63J-392X	MG R	3.9kΩ 1/16W J
	R9952	NRSA63J-102X	MG R	1kΩ 1/16W J
	R9953	NRVA63D-103X	MF R	10kΩ 1/16W±0.5%
	R9954	NRVA63D-221X	MF R	220Ω 1/16W±0.5%
	R9955	NRVA63D-392X	MF R	3.9kΩ 1/16W±0.5%
	R9956	NRSA63J-223X	MG R	22kΩ 1/16W J
	CAPACITOR			
⚠	C9901	QFZ9075-104	MPP CAP.	0.1μFAC275V M
⚠	C9902	QFZ9075-473	MPP CAP.	0.047μFAC275V M
⚠	C9904	QCZ9015-102	C CAP.	1000pFAC250V Z
⚠	C9905	QCZ9015-102	C CAP.	1000pFAC250V Z
⚠	C9906	QCZ9015-102	C CAP.	1000pFAC250V Z
	C9907	QEZ0199-127	E CAP.	120μF 400V M
	C9911	QFP32GJ-223	PP CAP.	0.022μF 400V J
	C9912	QCZ0325-561	C CAP.	560pF 2kV K
	C9913-14	QCZ0325-151	C CAP.	150pF 2kV K
	C9915	NDC31HJ-471X	C CAP.	470pF 50V J
	C9922	QETN1HM-476Z	E CAP.	47μF 50V M
	C9923	NCB31HK-332X	C CAP.	3300pF 50V K
	C9924	NCB31HK-473X	CHIP CAP.	0.047μF 50V K
	C9934	QCB32HK-561Z	C CAP.	560pF 500V K
	C9935	QETN1EM-477Z	E CAP.	470μF 25V M
	C9936	QETN1EM-227Z	E CAP.	220μF 25V M
	C9937	QETN1EM-477Z	E CAP.	470μF 25V M
	C9938	QETN1EM-227Z	E CAP.	220μF 25V M
	C9939	QETM1VM-228	E CAP.	2200μF 35V M
	C9940	QETN1VM-477Z	E CAP.	470μF 35V M
	C9941	QETM1VM-228	E CAP.	2200μF 35V M
	C9942	QETN1VM-477Z	E CAP.	470μF 35V M
	C9952	QFLC1HJ-473Z	M CAP.	0.047μF 50V J
	TRANSFORMER			
⚠	T9911	QQS0132-001	SWITCH.TRANSF.	
	COIL			
	L9931-32	QQL26AK-470Z	COIL	47μH K
	L9933-34	QQL60AK-220	INDUCTOR	
	DIODE			
⚠	D9901	G2SBA60	BRIDGE DIODE	
	D9911	MA3068/H/-X	ZENER DIODE	
	D9912	RG1C-LFA1	SI.DIODE	
	D9913	MA111-X	SI.DIODE	
	D9914	MA3120/M/-X	ZENER DIODE	
	D9921	AU01Z-T2	SI.DIODE	
	D9922	AU01Z-T2	SI.DIODE	
	D9923	MA3270/H/-X	ZENER DIODE	
	D9924-25	MA111-X	SI.DIODE	
	D9931	RGP10J-5025-T3	SI.DIODE	
	D9932	RGP10J-5025-T3	SI.DIODE	
	D9933-34	FMX-G12S	SI.DIODE	
	D9951	MA111-X	SI.DIODE	
	D9952	MA4068N/Z1/-T2	ZENER DIODE	
	D9953	MA111-X	SI.DIODE	
	TRANSISTOR			
	Q9951	2SC2240/GL/-T	SI.TRANSISTOR	
	IC			
	IC9921	STR-G6653	I.C(HYBRID)	
	OTHERS			
⚠	CP9901	QMFZ043-2R0Z-J1	FUSE	2.0A
⚠	CP9931	ICP-N50-Y	I.C.PROTECT	
⚠	CP9932	ICP-N50-Y	I.C.PROTECT	
⚠	CP9933	QMFZ034-4R0Z-J1	FUSE	4.0A
⚠	CP9934	QMFZ034-4R0Z-J1	FUSE	4.0A
	K9911-12	QQR1113-001Z	FERRITE BEADS	
	K9913	QQR1114-001Z	FERRITE BEADS	
	K9914	QQR1113-001Z	FERRITE BEADS	
	K9931-34	QQR1113-001Z	FERRITE BEADS	
⚠	LF9901	QQR0527-002	LINE FILTER	
⚠	PC9931	PC123F2	I.C(PH.COUPLER)	
⚠	R9921	QRZ9017-220	F R	22Ω 1/14W J

REACTOR P.W. BOARD ASS'Y (SMF-9801A)

⚠	Symbol No.	Part No.	Part Name	Description	
	RESISTOR				
⚠	R9901	QRF054K-3R3	UNF R	3.3Ω 5W	K
	R9902	QRE121J-564Y	C R	560kΩ 1/2W	J
⚠	R9910	QRZ9017-470	F R	47 Ω 1/4W	J
	R9911	QRE121J-272Y	C R	2.7kΩ 1/2W	J
	R9912	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R9913	QRE121J-681Y	C R	680Ω 1/2W	J
	R9914	QRX01GJ-3R9	MF R	3.9Ω 1W	J
	R9931	NRSA63J-101X	MG R	100Ω 1/16W	J
	R9932	QRE121J-331Y	C R	330Ω 1/2W	J
	R9933	QRE121J-471Y	C R	470Ω 1/2W	J
	R9934-36	NRSA63J-103X	MG R	10kΩ 1/16W	J
	CAPACITOR				
⚠	C9901	QFZ9075-104	MPP CAP.	0.1µFAC275V	M
⚠	C9902	QFZ9075-104	MPP CAP.	0.1µFAC275V	M
⚠	C9903	QFZ9075-104	MPP CAP.	0.1µFAC275V	M
⚠	C9904	QCZ9054-472	C CAP.	4700pFAC250V	Z
⚠	C9905	QCZ9054-472	C CAP.	4700pFAC250V	Z
⚠	C9906	QCZ9054-472	C CAP.	4700pFAC250V	Z
	C9907	QETM2GM-226	E CAP.	22µF 400V	M
⚠	C9909	QFZ9075-104	MPP CAP.	0.1µFAC275V	M
	C9910	QETN1HM-475Z	E CAP.	4.7µF 50V	M
	C9911	NCB31HK-222X	C CAP.	2200pF 50V	K
	C9912	NCB31HK-103X	C CAP.	0.01µF 50V	K
	C9913	NDC31HJ-471X	C CAP.	470pF 50V	J
	C9914	QCZ0340-151	C CAP.	150pF 2kV	K
	C9931	QETN1AM-108Z	E CAP.	1000µF 10V	M
	C9932	NCB31HK-102X	C CAP.	1000pF 50V	K
	C9933	QETN1AM-107Z	E CAP.	100µF 10V	M
⚠	C9991	QCZ9079-471	C CAP.	470pFAC250V	K
	TRANSFORMER				
⚠	T9931	QQS0101-001	SWITCH.TRANSF.		
	COIL				
	L9931	QQL26AK-220Z	COIL	22µH	K
	DIODE				
⚠	D9901	S1WB/A/60-4101	SI.DIODE		
	D9910	AU01Z-T2	SI.DIODE		
	D9911	AU01Z-T2	SI.DIODE		
	D9912	MA111-X	SI.DIODE		
	D9913	MA3270/H/-X	ZENER DIODE		
	D9931	RGP10J-5025-T3	SI.DIODE		
	D9932	NJM431L-T	I.C(MONO-ANA)		
	D9933	MA3075/M/-X	ZENER DIODE		
	IC				
	IC9910	STR-L472/F7	I.C(HYBRID)		
	OTHERS				
⚠	CP9901	QMFZ043-2R0Z-J1	FUSE	2.0A	
⚠	CP9931	ICP-N25-Y	I.C.PROTECT		
⚠	LF9901	QQR0676-006	LINE FILTER		
⚠	LF9902	QQR0676-006	LINE FILTER		
⚠	LF9903	QQR0928-001	LINE FILTER		
⚠	PC9931	PC123F2	I.C(PH.COUPLER)		

LINE FILTER P.W. BOARD ASS'Y (SMF-9901A)

⚠	Symbol No.	Part No.	Part Name	Description	
	CAPACITOR				
⚠	C9902	QFZ9075-104	MPP CAP.	0.1µFAC275V	M
⚠	C9903	QFZ9075-104	MPP CAP.	0.1µFAC275V	M
	OTHERS				
		CEMG002-001Z	FUSE CLIP		
⚠	F9901	QMF51E2-5R0S	FUSE	5.0A	
⚠	LF9902	QQR0972-003	LINE FILTER		
⚠	LF9903	QQR0972-003	LINE FILTER		
⚠	VA9901	QAF0052-621	VARISTOR		

DEF. OSC P.W. BOARD ASS'Y (SMF-0H201A)

⚠	Symbol No.	Part No.	Part Name	Description	
	RESISTOR				
	R0172	NRSA63J-822X	MG R	8.2kΩ 1/16W	J
	R0173	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R0174-75	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0181	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R0182	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0184	NRVA63D-473X	MF R	47kΩ 1/16W±0.5%	
	R0185	NRVA63D-103X	MF R	10kΩ 1/16W±0.5%	
	R0186	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0189-90	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0191	NRSA63J-391X	MG R	390Ω 1/16W	J
	R0751	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R0752	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0753	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R0754-55	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R0756	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R0757	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R0758-59	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0761-65	QRE121J-184Y	C R	180kΩ 1/2W	J
	CAPACITOR				
	C0161	QETN1CM-108Z	E CAP.	1000µF 16V	M
	C0162	NCB31HK-103X	C CAP.	0.01µF 50V	K
	C0167	QFLC1HJ-102Z	M CAP.	1000pF 50V	J
	C0174	QFP31HJ-272Z	PP CAP.	2700pF 50V	J
	C0177	NCB31HK-103X	C CAP.	0.01µF 50V	K
	C0178-82	NCB31CK-104X	C CAP.	0.1µF 16V	K
	C0751	QFLC1HJ-563Z	M CAP.	0.056µF 50V	J
	C0752	QETN1VM-476Z	E CAP.	47µF 35V	M
⚠	C0753	QFZ0200-512	MPP CAP.	5100pF1.5kVH±3%	
	C0754	QFV71HJ-184Z	MF CAP.	0.18µF 50V	J
⚠	C0761	QFZ0122-682	MPP CAP.	6800pF1.8kVH±3%	
	C0762-63	QCZ0122-471	C CAP.	470pF 2kV	K
	COIL				
	L0105	QQL01BK-101Z	COIL	100µH	K
	DIODE				
	D0164	1SS355-X	SI.DIODE		
	D0166	MA3120/M/-X	ZENER DIODE		
	D0751-52	ES1F-LFG2	SI.DIODE		
	TRANSISTOR				
	Q0168	2SD601A/QR/-X	SI.TRANSISTOR		
	Q0751-52	2SD601A/QR/-X	SI.TRANSISTOR		
	Q0753	2SC4632	SI.TRANSISTOR		
	Q0754-55	2SD601A/QR/-X	SI.TRANSISTOR		
	IC				
	IC0162	BA10393F-XE	I.C(MONO-ANA)		
	OTHERS				
	CN0010	QGB1505K1-35	PLUG		

MICOM P.W. BOARD ASS'Y (SMF-0M201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R0001	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0002	NRSA63J-104X	MG R	100kΩ 1/16W J
	R0003-05	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0006	NRSA63J-393X	MG R	39kΩ 1/16W J
	R0018-20	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0022	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0024	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0026	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0030	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0032	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0034-53	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0055	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0057-77	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0081	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	R0087	NRSA63J-221X	MG R	220Ω 1/16W J
	R0089-91	NRSA63J-221X	MG R	220Ω 1/16W J
	R0092	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0093	NRSA63J-221X	MG R	220Ω 1/16W J
	R0094	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0095	NRSA63J-473X	MG R	47kΩ 1/16W J
	R0096	NRSA63J-221X	MG R	220Ω 1/16W J
	R0097	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0098	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0099	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0102	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0103	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0104	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0107	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0108-09	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0110	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0111	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0112	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0113-14	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0119	NRSA63J-563X	MG R	56kΩ 1/16W J
	R0120	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0121	NRSA63J-182X	MG R	1.8kΩ 1/16W J
	R0122	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0123	NRSA63J-682X	MG R	6.8kΩ 1/16W J
	R0124	NRSA63J-101X	MG R	100Ω 1/16W J
	R0125-28	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0129	NRSA63J-823X	MG R	82kΩ 1/16W J
	R0130	NRSA63J-104X	MG R	100kΩ 1/16W J
	R0131	NRSA63J-823X	MG R	82kΩ 1/16W J
	R0132	NRSA63J-104X	MG R	100kΩ 1/16W J
	R0135	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0136	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0137-39	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0140	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0144	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0147-49	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0150	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0151	NRSA63J-183X	MG R	18kΩ 1/16W J
	R0152-54	NRSA63J-221X	MG R	220Ω 1/16W J
	R0155-56	NRSA63J-101X	MG R	100Ω 1/16W J
	R0158	NRSA63J-221X	MG R	220Ω 1/16W J
	R0161	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0162	NRSA63J-153X	MG R	15kΩ 1/16W J
	R0163	NRSA63J-682X	MG R	6.8kΩ 1/16W J
	R0165	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0166	NRSA63J-223X	MG R	22kΩ 1/16W J
	R0167	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0168	NRSA63J-471X	MG R	470Ω 1/16W J
	CAPACITOR			
	C0001	QETN0JM-477Z	E CAP.	470µF 6.3V M
	C0002	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0003	NCB11CK-225X	C CAP.	2.2µF 16V K
	C0004	QETN0JM-108Z	E CAP.	1000µF 6.3V M
	C0005-06	NCB11CK-225X	C CAP.	2.2µF 16V K
	C0007	NEH71CM-476X	E CAP.	47µF 16V M
	C0008	NCB11CK-225X	C CAP.	2.2µF 16V K

⚠	Symbol No.	Part No.	Part Name	Description
	CAPACITOR			
	C0012-13	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0014	NDC31HJ-821X	C CAP.	820pF 50V J
	C0015	NCB31HK-152X	C CAP.	1500pF 50V K
	C0016	NDC31HJ-181X	C CAP.	180pF 50V J
	C0017	NDC31HJ-330X	C CAP.	33pF 50V J
	C0018	NDC31HJ-820X	C CAP.	82pF 50V J
	C0019	NEH71CM-476X	E CAP.	47µF 16V M
	C0020	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0021	NEH71CM-476X	E CAP.	47µF 16V M
	C0023	NCB31EK-333X	CHIP CAP.	0.033µF 25V K
	C0024	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0025	NCB31EK-333X	CHIP CAP.	0.033µF 25V K
	C0026	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0027-28	NEH71CM-476X	E CAP.	47µF 16V M
	C0029	NDC31HJ-151X	C CAP.	150pF 50V J
	C0030-32	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0034-39	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0040	NDC31HJ-330X	C CAP.	33pF 50V J
	C0041	NDC31HJ-270X	C CAP.	27pF 50V J
	C0042-43	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0045-47	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0048	NEH71CM-476X	E CAP.	47µF 16V M
	C0049-50	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0051	NEH71CM-476X	E CAP.	47µF 16V M
	C0052-57	NCF31CZ-104X	C CAP.	0.1µF 16V Z
	C0059-61	NEH71CM-106X	E CAP.	10µF 16V M
	C0062	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	C0063-65	NDC31HJ-820X	C CAP.	82pF 50V J
	C0070	NEH71HM-225X	E CAP.	2.2µF 50V M
	COIL			
	L0001	NQL092K-4R7X	INDUCTOR	
	L0003	NQL092K-4R7X	INDUCTOR	
	L0005-08	NQL092K-4R7X	INDUCTOR	
	L0009	NQL034K-4R7X	INDUCTOR	
	L0010-14	NQL092K-4R7X	INDUCTOR	
	L0015-16	NQL034K-4R7X	INDUCTOR	
	L0017-22	NQL092K-1R5X	INDUCTOR	
	DIODE			
	D0001	MA111-X	SI.DIODE	
	D0005-08	MA3056/M/-X	ZENER DIODE	
	D0010	MA3068/M/-X	ZENER DIODE	
	D0106	MA111-X	SI.DIODE	
	TRANSISTOR			
	Q0001-02	2SC2712/YG/-X	SI.TRANSISTOR	
	Q0007	2SA1162/YG/-X	SI.TRANSISTOR	
	Q0013	2SC2712/YG/-X	SI.TRANSISTOR	
	Q0021-22	2SC2712/YG/-X	SI.TRANSISTOR	
	IC			
	IC0001	SDA6000	I.C(M)	
	IC0002	MR27V3202E	I.C(M)	
	IC0003	K4S641632E-TC75	I.C(D-RAM)	
	IC0004	AT24C32-53PR0	I.C.	(SERVICE)
	IC0005	S-80828ANNP-W	I.C(MONO-ANA)	
	IC0901	TA48M025F-X	I.C(M)	
	IC0902	TA48M033F-X	I.C(M)	
	IC0903	MM1437AF-X	I.C(MONO-ANA)	
	OTHERS			
		CEMS007-008	I.C.SOCKET	
		NNV0001-044	IC SOCKET	
	CN0001	QGB1505K1-50	CONNECTOR	
	K0001	NRSA63J-390X	MG R	39Ω 1/16W J
	K0003	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	K0004	NQR0389-003X	FERRITE BEADS	
	LC0001	NQR0313-007X	EMI FILTER	
	LC0002	NQR0431-001X	EMI FILTER	
	X0001	QAX0669-001Z	CRYSTAL	

AV TERMINAL P.W. BOARD ASS'Y (SMF-0S201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R0002-03	NRSA63J-101X	MG R	100Ω 1/16W J
	R0011	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0101	NRSA63J-750X	MG R	75Ω 1/16W J
	R0102	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0103-04	NRSA63J-750X	MG R	75Ω 1/16W J
	R0105-06	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0107	NRSA63J-101X	MG R	100Ω 1/16W J
	R0108	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0109	NRSA63J-101X	MG R	100Ω 1/16W J
	R0110	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0111-13	NRSA63J-101X	MG R	100Ω 1/16W J
	R0114	NRSA63J-750X	MG R	75Ω 1/16W J
	R0115	NRSA63J-223X	MG R	22kΩ 1/16W J
	R0116	NRSA63J-750X	MG R	75Ω 1/16W J
	R0117	NRSA63J-223X	MG R	22kΩ 1/16W J
	R0118-19	NRSA63J-750X	MG R	75Ω 1/16W J
	R0120-21	NRSA63J-823X	MG R	82kΩ 1/16W J
	R0122	NRSA63J-471X	MG R	470Ω 1/16W J
	R0123	NRSA63J-223X	MG R	22kΩ 1/16W J
	R0124	NRSA63J-153X	MG R	15kΩ 1/16W J
	R0125	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0126-27	NRSA63J-391X	MG R	390Ω 1/16W J
	R0128	NRSA63J-104X	MG R	100kΩ 1/16W J
	R0129-30	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0131	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0132	NRSA63J-223X	MG R	22kΩ 1/16W J
	R0133	NRSA63J-153X	MG R	15kΩ 1/16W J
	R0134	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0135	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0136	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0137	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0138	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0139	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0140	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R0141-42	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0143-49	NRSA63J-101X	MG R	100Ω 1/16W J
	R0150	NRSA63J-750X	MG R	75Ω 1/16W J
	R0151	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0152	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0153	NRSA63J-750X	MG R	75Ω 1/16W J
	R0154	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0155	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0156	NRSA63J-750X	MG R	75Ω 1/16W J
	R0157	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R0158-59	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0160	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R0161-66	NRSA63J-101X	MG R	100Ω 1/16W J
	R0167	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0168	NRSA63J-101X	MG R	100Ω 1/16W J
	R0169	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0170-71	NRSA63J-221X	MG R	220Ω 1/16W J
	R0172	NRSA63J-750X	MG R	75Ω 1/16W J
	R0173	QRK126J-151X	C R	150Ω 1/2W J
	R0174	NRSA63J-101X	MG R	100Ω 1/16W J
	R0175	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0176	NRSA63J-181X	MG R	180Ω 1/16W J
	R0179	NRSA63J-181X	MG R	180Ω 1/16W J
	R0181	NRSA63J-182X	MG R	1.8kΩ 1/16W J
	R0183	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R0184-85	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R0601	NRSA63J-225X	MG R	2.2MΩ 1/16W J
	R0602	NRSA63J-223X	MG R	22kΩ 1/16W J
	R0603	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0604	NRSA63J-822X	MG R	8.2kΩ 1/16W J

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R0605	NRSA63J-562X	MG R	5.6kΩ 1/16W J
	R0606	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0607	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R0608	NRSA63J-154X	MG R	150kΩ 1/16W J
	R0609	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R0610	NRSA63J-182X	MG R	1.8kΩ 1/16W J
	R0611	NRSA63J-105X	MG R	1MΩ 1/16W J
	CAPACITOR			
	C0001	NCB31HK-222X	C CAP.	2200pF 50V K
	C0002	QETN1HM-106Z	E CAP.	10μF 50V M
	C0003	NCB31CK-104X	C CAP.	0.1μF 16V K
	C0004	QETN1CM-108Z	E CAP.	1000μF 16V M
	C0005	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0006	QETN1HM-106Z	E CAP.	10μF 50V M
	C0011-12	NCB31CK-104X	C CAP.	0.1μF 16V K
	C0013	QETN1HM-106Z	E CAP.	10μF 50V M
	C0015	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0016	QETN1CM-476Z	E CAP.	47μF 16V M
	C0017	NCB31CK-104X	C CAP.	0.1μF 16V K
	C0101-02	NCB31HK-152X	C CAP.	1500pF 50V K
	C0103	QETN1HM-106Z	E CAP.	10μF 50V M
	C0104	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0105	QETN1HM-106Z	E CAP.	10μF 50V M
	C0106	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0107	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0108-09	NCB31HK-152X	C CAP.	1500pF 50V K
	C0110	QETN1HM-106Z	E CAP.	10μF 50V M
	C0111-12	NCB31HK-152X	C CAP.	1500pF 50V K
	C0113	QETN1AM-108Z	E CAP.	1000μF 10V M
	C0114-15	NCB31HK-472X	C CAP.	4700pF 50V K
	C0116-20	QETN1HM-106Z	E CAP.	10μF 50V M
	C0121-22	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0123	QENC1EM-106Z	BP E CAP.	10μF 25V M
	C0124-25	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0126	QENC1HM-105Z	BP E CAP.	1.0μF 50V M
	C0127	QENC1EM-106Z	BP E CAP.	10μF 25V M
	C0128-31	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0132	QETN1HM-106Z	E CAP.	10μF 50V M
	C0133	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0134	QETN1HM-106Z	E CAP.	10μF 50V M
	C0135	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0136	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0137	QENC1HM-105Z	BP E CAP.	1.0μF 50V M
	C0138	NCF31AZ-105X	C CAP.	1μF 10V Z
	C0139	QENC1EM-106Z	BP E CAP.	10μF 25V M
	C0141	QETN1CM-477Z	E CAP.	470μF 16V M
	C0142	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0143	QETN1HM-106Z	E CAP.	10μF 50V M
	C0144	QENC1EM-106Z	BP E CAP.	10μF 25V M
	C0145	QETN1CM-107Z	E CAP.	100μF 16V M
	C0146-49	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0156	NCF31AZ-105X	C CAP.	1μF 10V Z
	C0157-58	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0159	QETN1HM-106Z	E CAP.	10μF 50V M
	C0601	QENC1HM-475Z	BP E CAP.	4.7μF 50V M
	C0602	QETN1HM-475Z	E CAP.	4.7μF 50V M
	C0603	QETN1HM-106Z	E CAP.	10μF 50V M
	C0604	QETN1CM-107Z	E CAP.	100μF 16V M
	C0605	NCB31HK-103X	C CAP.	0.01μF 50V K
	C0606-07	QETN1HM-106Z	E CAP.	10μF 50V M
	C0608	QENC1HM-475Z	BP E CAP.	4.7μF 50V M
	C0609-10	QENC1CM-226Z	BP E CAP.	22μF 16V M
	C0611	QETN1HM-105Z	E CAP.	1.0μF 50V M
	C0612	QETN1HM-106Z	E CAP.	10μF 50V M

⚠	Symbol No.	Part No.	Part Name	Description
	CAPACITOR			
	C0613	QETN1CM-107Z	E CAP.	100µF 16V M
	C0614	NCB31HK-103X	C CAP.	0.01µF 50V K
	C0615	NCB31EK-273X	CHIP CAP.	0.027µF 25V K
	C0616	QENC1CM-226Z	BP E CAP.	22µF 16V M
	C0617	QETN1AM-107Z	E CAP.	100µF 10V M
	C0618	NCB31CK-563X	CHIP CAP.	0.056µF 16V K
	C0619	NCB31EK-393X	CHIP CAP.	0.039µF 25V K
	C0620	QETN1HM-106Z	E CAP.	10µF 50V M
	C1621	QETN1HM-476Z	E CAP.	47µF 50V M
	COIL			
	L0001	QQL244K-270Z	PEAKING COIL	
	L0002	QQL244K-100Z	COIL	10µH K
	L0011	QQL244K-100Z	COIL	10µH K
	L0101-02	QQL244K-5R6Z	COIL	5.6µH K
	DIODE			
	D0104-09	MA3120/M/-X	ZENER DIODE	
	D0110	MA3056/M/-X	ZENER DIODE	
	TRANSISTOR			
	Q0101	DTC323TK-X	DIGI.TRANSISTOR	
	Q0102-03	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0104	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0105	DTC323TK-X	DIGI.TRANSISTOR	
	Q0106-07	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0110	2SC1740S/QR/-T	SI.TRANSISTOR	
	Q0111	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0113	2SC2412K/QR/-X	SI.TRANSISTOR	
	IC			
	IC0101	CXA2069Q	I.C(MONO-ANA)	
	IC0601	AN5285K	I.C(MONO-ANA)	
	IC0602	AN7395S-W	I.C(MONO-ANA)	
	OTHERS			
	CN0001	QGB1505K1-50	CONNECTOR	
	J0101	QNZ0454-001	PIN JACK	
	J0102	QNN0349-001	PIN JACK	
	J0103	QNN0349-002	PIN JACK	
	J0104	QNN0348-001	PIN JACK	
	J0105	QNN0349-001	PIN JACK	
	J0106	QNS0001-001	JACK	
⚠	TU0001	QAU0217-001	TUNER	
	UD0001	QAU0219-001	RF SPLITTER	

SYNC SEP P.W. BOARD ASS'Y (SMF-0V201A)

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R0301-02	NRSA63J-101X	MG R	100Ω 1/16W J
	R0303	NRSA63J-331X	MG R	330Ω 1/16W J
	R0304	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R0305-06	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	CAPACITOR			
	C0301	QENC1HM-105Z	BP E CAP.	1.0µF 50V M
	C0302	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0303	QETN1CM-107Z	E CAP.	100µF 16V M
	C0304-05	NCB31HK-103X	C CAP.	0.01µF 50V K
	C0306	QETN1HM-225Z	E CAP.	2.2µF 50V M
	IC			
	IC0301	TA1318N	I.C(M)	
	OTHERS			
	CN0015	QGB2501K1-10	JL PLUG	
	X0301	CSB503F30	CER.RESONATOR	

100HZ P.W. BOARD ASS'Y (SMF-0Z201A)

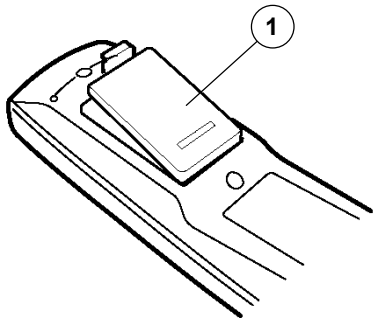
⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R0007-09	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0010-12	NRSA63J-101X	MG R	100Ω 1/16W J
	R0101	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0102-03	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0104	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0105-06	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0107	NRSA63J-750X	MG R	75Ω 1/16W J
	R0111-13	NRSA63J-750X	MG R	75Ω 1/16W J
	R0117-19	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0120	NRSA63J-561X	MG R	560Ω 1/16W J
	R0121	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0123	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0124-25	NRSA63J-101X	MG R	100Ω 1/16W J
	R0132-39	NRSA63J-100X	MG R	10Ω 1/16W J
	R0141	NRSA63J-100X	MG R	10Ω 1/16W J
	R0151	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0152-53	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0154	NRSA63J-750X	MG R	75Ω 1/16W J
	R0155-56	NRSA63J-101X	MG R	100Ω 1/16W J
	R0164-66	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0170	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0179-86	NRSA63J-100X	MG R	10Ω 1/16W J
	R0188	NRSA63J-100X	MG R	10Ω 1/16W J
	R0194-96	NRSA63J-750X	MG R	75Ω 1/16W J
	R0197	NRSA63J-561X	MG R	560Ω 1/16W J
	R0201	NRSA63J-121X	MG R	120Ω 1/16W J
	R0202-03	NRSA63J-101X	MG R	100Ω 1/16W J
	R0204	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0217	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0218	NRSA63J-333X	MG R	33kΩ 1/16W J
	R0219	NRSA63J-103X	MG R	10kΩ 1/16W J
	R0220	NRSA63J-822X	MG R	8.2kΩ 1/16W J
	R0221	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0223	NRSA63J-473X	MG R	47kΩ 1/16W J
	R0225	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0250	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0251	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0252	NRSA63J-101X	MG R	100Ω 1/16W J
	R0254	NRSA63J-391X	MG R	390Ω 1/16W J
	R0255-56	NRSA63J-221X	MG R	220Ω 1/16W J
	R0257	NRSA63J-271X	MG R	270Ω 1/16W J
	R0258	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0259	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0261	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0264	NRSA63J-391X	MG R	390Ω 1/16W J
	R0271	NRSA63J-222X	MG R	2.2kΩ 1/16W J
	R0274	NRSA63J-391X	MG R	390Ω 1/16W J
	R0281	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0291-92	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R0301-03	NRSA63J-104X	MG R	100kΩ 1/16W J
	R0304-05	NRSA63J-101X	MG R	100Ω 1/16W J
	R0306-08	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R0321	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R0322	NRSA63J-182X	MG R	1.8kΩ 1/16W J
	R0323	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0331	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R0332	NRSA63J-182X	MG R	1.8kΩ 1/16W J
	R0333	NRSA63J-332X	MG R	3.3kΩ 1/16W J
	R0341	NRSA63J-153X	MG R	15kΩ 1/16W J
	R0342	NRSA63J-102X	MG R	1kΩ 1/16W J
	R0343	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R0344	NRSA63J-152X	MG R	1.5kΩ 1/16W J
	R0345	NRSA63J-101X	MG R	100Ω 1/16W J
	R0351	NRSA63J-152X	MG R	1.5kΩ 1/16W J

⚠	Symbol No.	Part No.	Part Name	Description
	RESISTOR			
	R0361	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R0371	NRSA63J-272X	MG R	2.7kΩ 1/16W J
	R0401	NRSA63J-473X	MG R	47kΩ 1/16W J
	R0402	NRSA63J-472X	MG R	4.7kΩ 1/16W J
	R0404	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0407	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	R0409	NRSA63J-0R0X	MG R	0.0Ω 1/16W J
	CAPACITOR			
	C0001	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0002	NEH71CM-476X	E CAP.	47µF 16V M
	C0003	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0004	NEH71CM-476X	E CAP.	47µF 16V M
	C0005	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0006	NEH71CM-476X	E CAP.	47µF 16V M
	C0007-09	NDC31HJ-4R0X	C CAP.	4.0pF 50V J
	C0101	NEH71CM-106X	E CAP.	10µF 16V M
	C0102	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0103	NEH71CM-476X	E CAP.	47µF 16V M
	C0104	NCB31HK-152X	C CAP.	1500pF 50V K
	C0105	NDC31HJ-102X	C CAP.	1000pF 50V J
	C0106	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0107	NCF31CZ-224X	C CAP.	0.22µF 16V Z
	C0108	NCB31HK-152X	C CAP.	1500pF 50V K
	C0109	NDC31HJ-391X	C CAP.	390pF 50V J
	C0110	NEH71CM-106X	E CAP.	10µF 16V M
	C0111	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0112	NDC31HJ-331X	C CAP.	330pF 50V J
	C0116-18	NCF31CZ-224X	C CAP.	0.22µF 16V Z
	C0122-24	NDC31HJ-331X	C CAP.	330pF 50V J
	C0125-26	NDC31HJ-3R0X	C CAP.	3.0pF 50V J
	C0128	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0129	NCF31CZ-224X	C CAP.	0.22µF 16V Z
	C0130	NDC31HJ-391X	C CAP.	390pF 50V J
	C0131	NCB31HK-152X	C CAP.	1500pF 50V K
	C0132	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0133	NCB31HK-152X	C CAP.	1500pF 50V K
	C0134	NCB31CK-683X	CHIP CAP.	0.068µF 16V K
	C0136-37	NCB31CK-683X	CHIP CAP.	0.068µF 16V K
	C0138	NCB31HK-152X	C CAP.	1500pF 50V K
	C0139	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0140	NEH71CM-476X	E CAP.	47µF 16V M
	C0141	NDC31HJ-100X	C CAP.	10pF 50V J
	C0151	NEH71CM-106X	E CAP.	10µF 16V M
	C0152	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0153	NEH71CM-476X	E CAP.	47µF 16V M
	C0154	NCB31HK-152X	C CAP.	1500pF 50V K
	C0155	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0156	NCF31CZ-224X	C CAP.	0.22µF 16V Z
	C0157	NCB31HK-152X	C CAP.	1500pF 50V K
	C0158	NDC31HJ-391X	C CAP.	390pF 50V J
	C0159	NEH71CM-106X	E CAP.	10µF 16V M
	C0160	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0161	NDC31HJ-331X	C CAP.	330pF 50V J
	C0165-67	NCF31CZ-224X	C CAP.	0.22µF 16V Z
	C0172-73	NDC31HJ-331X	C CAP.	330pF 50V J
	C0174-75	NDC31HJ-3R0X	C CAP.	3.0pF 50V J
	C0176	NDC31HJ-331X	C CAP.	330pF 50V J
	C0177	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0178	NCF31CZ-224X	C CAP.	0.22µF 16V Z
	C0179	NDC31HJ-391X	C CAP.	390pF 50V J
	C0180	NCB31HK-152X	C CAP.	1500pF 50V K
	C0181	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0182	NCB31HK-152X	C CAP.	1500pF 50V K
	C0183	NCB31CK-683X	CHIP CAP.	0.068µF 16V K

⚠	Symbol No.	Part No.	Part Name	Description
	CAPACITOR			
	C0185-86	NCB31CK-683X	CHIP CAP.	0.068µF 16V K
	C0187	NCB31HK-152X	C CAP.	1500pF 50V K
	C0188	NCB31EK-473X	C CAP.	0.047µF 25V K
	C0189	NEH71CM-476X	E CAP.	47µF 16V M
	C0191	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0201	NEH71CM-476X	E CAP.	47µF 16V M
	C0202-05	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0206	NEH71CM-476X	E CAP.	47µF 16V M
	C0207-11	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0212-13	NDC31HJ-180X	C CAP.	18pF 50V J
	C0214-17	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0218	NDC31HJ-561X	C CAP.	560pF 50V J
	C0219	NEH71CM-476X	E CAP.	47µF 16V M
	C0220-35	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0237-38	NEH71CM-106X	E CAP.	10µF 16V M
	C0239-44	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0251	NDC31HJ-4R0X	C CAP.	4.0pF 50V J
	C0252-53	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0254	NDC31HJ-120X	C CAP.	12pF 50V J
	C0255	NDC31HJ-270X	C CAP.	27pF 50V J
	C0256	NEH71CM-106X	E CAP.	10µF 16V M
	C0261	NDC31HJ-4R0X	C CAP.	4.0pF 50V J
	C0262-63	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0264	NDC31HJ-120X	C CAP.	12pF 50V J
	C0265	NDC31HJ-270X	C CAP.	27pF 50V J
	C0271	NDC31HJ-4R0X	C CAP.	4.0pF 50V J
	C0272-73	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0274	NDC31HJ-120X	C CAP.	12pF 50V J
	C0275	NDC31HJ-270X	C CAP.	27pF 50V J
	C0301	NEH71CM-476X	E CAP.	47µF 16V M
	C0302-03	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0351	NEH71CM-476X	E CAP.	47µF 16V M
	C0352	NCB31HK-103X	C CAP.	0.01µF 50V K
	C0402-03	NCB31CK-104X	C CAP.	0.1µF 16V K
	C0404	NDC31HJ-330X	C CAP.	33pF 50V J
	COIL			
	L0001-03	NQL092K-1R5X	INDUCTOR	
	L0101	NQL034K-150X	INDUCTOR	
	L0102	NQL092K-3R3X	INDUCTOR	
	L0106-08	NQL092K-3R3X	INDUCTOR	
	L0109	NQL034K-6R8X	INDUCTOR	
	L0151	NQL034K-150X	INDUCTOR	
	L0155-57	NQL092K-3R3X	INDUCTOR	
	L0159	NQL034K-6R8X	INDUCTOR	
	L0201-03	NQL034K-100X	INDUCTOR	
	L0204	QQL244K-4R7Z	COIL	4.7µH K
	L0205-08	NQL034K-100X	INDUCTOR	
	L0209-10	NQL092K-1R5X	INDUCTOR	
	L0251	NQL092K-5R6X	INDUCTOR	
	L0261	NQL092K-5R6X	INDUCTOR	
	L0271	NQL092K-5R6X	INDUCTOR	
	DIODE			
	D0201-04	MA111-X	SI.DIODE	
	D0401	MA111-X	SI.DIODE	
	TRANSISTOR			
	Q0101-02	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0151	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0201	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0251-52	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0253	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0261	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0271	2SA1037AK/QR/-X	SI.TRANSISTOR	

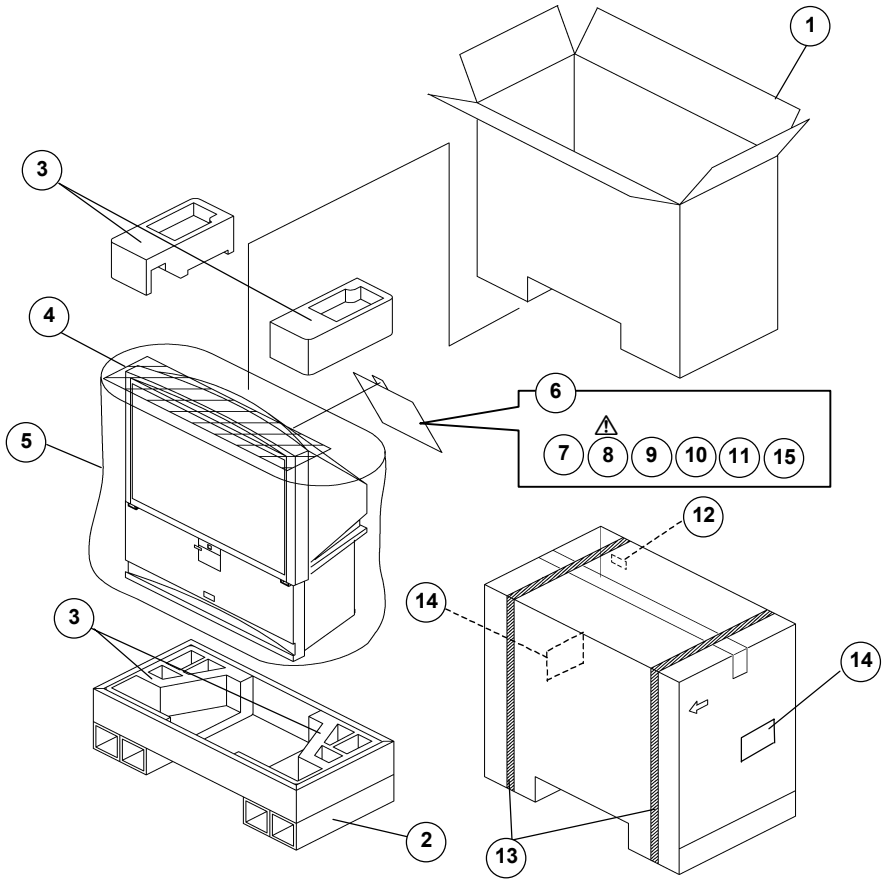
⚠	Symbol No.	Part No.	Part Name	Description
	TRANSISTOR			
	Q0301-03	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0321-22	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0331-32	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0341	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0342	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0351	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q0361	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q0371	2SA1037AK/QR/-X	SI.TRANSISTOR	
	IC			
	IC0101	VPC3230D-QA-B3	I.C(M)	
	IC0151	VPC3230D-QA-B3	I.C(M)	
	IC0201	SAA4979H/V103BD	I.C(MONO-ANA)	
	IC0202	OM4994H	I.C(M)	
	IC0203-05	SAA4955HL/V1	I.C(MONO-ANA)	
	IC0206-10	TC7W08F-X	I.C(ECL-LOGIC)	
	IC0211	TC7WHU04FU-X	I.C(DIGI-MOS)	
	IC0301	TDA9178T/N1-X	I.C(MONO-ANA)	
	IC0351	TC4053BF/N/-XE	I.C(DIGI-MOS)	
	IC0401	S-80828ANNP-W	I.C(MONO-ANA)	
	IC0402	TC7WH34FU-X	I.C(DIGI-MOS)	
	OTHERS			
	CN0003	QGB1505K1-50	CONNECTOR	
	LC0010-12	NQR0313-009X	EMI FILTER	
	LC0013	NQR0313-004X	EMI FILTER	
	LC0014-15	NQR0313-007X	EMI FILTER	
	X0101	QAX0655-001Z	CRYSTAL	
	X0151	QAX0655-001Z	CRYSTAL	
	X0201	QAX0273-001Z	CRYSTAL	

REMOTE CONTROL UNIT PARTS LIST (RM-C214-1C)



⚠	Ref.No.	Part No.	Part Name	Description
	1	BKL11C204A	BATTERY COVER	(RM-C214-1C)

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description
	[HV-53PRO/K]			
	1	LC11259-001C	PACKING CASE	
	2	LC31769-001A	BOTTOM CASE	
	3	LC11254-001B	CUSHION ASSY	4pcs in 1set
	4	CP30611-008	TOP COVER	
	5	CP30612-006	SET COVER	
	6	QPA02503505	POLY BAG	
	7	RM-C214-1C	REMOCON UNIT	
⚠	8	LCT1165-001A	INST BOOK	
	9	BT-56010-1	WARRANTY CARD	
	11	LCT1166-001A	INST SHEET	
	12	CM47385-00A	POS/SERIAL LABEL	
	13	CP30371-00K	BAND ASSY	(×4)
	14	LC41280-001A	CARTON RABEL	(×2)
	15	QAM0401-001	ADAPTOR PLUG	
	[HV-53PRO/AU]			
	1	LC11259-001C	PACKING CASE	
	2	LC31769-001A	BOTTOM CASE	
	3	LC11254-001B	CUSHION ASSY	4pcs in 1set
	4	CP30611-008	TOP COVER	
	5	CP30612-006	SET COVER	
	6	QPA02503505	POLY BAG	
	7	RM-C214-1C	REMOCON UNIT	
⚠	8	LCT1078-001A	INST BOOK	
	9	BT-56001-2	WARRANTY CARD	
	10	BT-56002-2	S.CENTER LIST	
	11	LCT1159-001B	INST SHEET	
	12	CM47385-00A	POS/SERIAL LABEL	
	13	CP30371-00K	BAND ASSY	(×4)